

SSRC report bemoans end of 'halcyon days'

by David Walker
Social Sciences Correspondent

The halcyon days for education and research of the 1960s have gone for ever, the annual report of the Social Science Research Council warned this week.

The report, for the year ending in March 1975, emphasized that no sector of public spending could grow faster than national income as higher education had done in the 1960s. Even when inflation was cured, the days of research expansion would not be restored.

Yet it noted that financial stringency had hit the SSRC less than the universities because the bulk of its money went on grants of short duration and so was turned over much more rapidly. The value of new research grants in 1974-75 was 5 per cent down on the average for 1972-74 but the number of new studentships awarded was held constant.

Paradoxically it became easier in 1974-75 to get certain kinds of grant from the SSRC. The number of applications for grants over £50,000 declined, while the number of applications for grants under £5,000 increased.

During the year the SSRC spent £2.46m on all grants with research in economics continuing to take the largest proportion. There has been a shift towards subjects like psychology and education at the expense of sociology and social administration, and economic and social history.

The size of grants applied for dropped, on average, which meant a check to the upward trend in the value of grant applications. This had been fairly generally experienced throughout the research council system, the report said.

It is plainly connected with the financial position of universities, although it is not quite clear which aspect of the position has been chiefly responsible. Universities may be unwilling to take on the expense that research grants usually place on them.

It is thought, however, that this has not been the main cause so far and that the chief explanation has been a psychological one; the general feeling that no money was to be had anywhere led potential applicants to feel that it would be futile to put in applications, particularly large ones.

A major change in SSRC policy during the year has been the establishment of a body to set research in train, rather than wait for academics to come forward with proposals. This Research Initiatives Board would encourage research areas that needed more active development than they were getting, the report stated.

"The board will be responsible for coordination, evaluation and in some cases funding proposals for research, in relation to outside agencies its role is seen largely as that of a broker between those who ask the questions and those who attempt to answer them. At the same time, it will seek to create a climate within which each party in the relationship can be made aware of the others' requirements and tolerance of its demands.

"Major customers for this type of service are likely to be central and local government but it is envisaged that other bodies that do have a research capability of their own will participate also.

The report emphasized the board would not be concerned with "applied" research, pure research would be assigned to the grant holders. Much grant work had been and would continue to be related to policy work. The research initiatives board had been set up as much to improve the quality as to increase the quantity of research initiatives.

The SSRC took a sanguine view of the future of postgraduate training, which it funded through its studentships and bursaries. Despite a check to the upward trend in the value of grant applications, the demand for manpower would justify some expansion in the number of studentships awarded.

"The SSRC is acutely conscious of its responsibility not to give postgraduate training that culminates in professional unemployment.

It is also very conscious, however, that students now will remain in the labour force for 40 years and also that there is very great scope both in the public sector and in the private sector for the application of social science research that can at present only be acquired by training at postgraduate level."

Report of the SSRC, April 1974. March 1975, HMSO, £1.00.

Workers' paid study leave now closer

The prospect of statutory paid educational leave for all British workers came closer this week with the Government's decision to accept the principles of the White Paper on Education published last week.

Published this week as a White Paper, the Government's decision is a response to a convention establishing principles for the development of paid educational leave in member states.

In accepting the recommendations, the Government emphasizes the importance of collaboration and consultation between management, workers and educational institutions, with specific or general encouragement from both central government and outside bodies or groups.

It makes it clear that no new money will be made available at present.

"It goes on to say, 'The Government does not see its recommendation as affecting the established national practice whereby educational providers have the freedom to determine which courses to provide and the nature of their curriculum, and whereby publicly funded courses are in principle open to all who wish to apply for entry and who possess the necessary qualifications for admission.'

"The White Paper makes it clear that its adoption of the ILO convention will not lead to extra expenditure, and that steps to develop paid educational leave in Britain will have to be paid for from resources currently available."

International Labour Conference, CMND 6236, HMSO, 32p.

Science revival boosts admissions

from page 1

Sheffield, Trent, Leeds and Birmingham polytechnics report a buoyant interest from applicants with signs that subjects like science and technology are picking up more students than last year.

Sheffield Polytechnic says that admissions are "on target" with more interest in science and engineering courses. Only metallurgy is not attracting students.

Trent Polytechnic reports a record year for applications, with students opting strongly for teaching and social work, fashion and design, and country planning courses. There are still vacancies on the polytechnic's Diploma in Textile Technology, its part-time degree course in surveying and some areas of engineering.

Colleges of education, which might be expected to be suffering from the effects of reorganization, are receiving a mixed response from students. Some colleges in the London area are short of applicants but others are turning students away.

The small monotechnic colleges are attracting particularly large numbers of applications, especially if they have a secure future. North Riding College, Scarborough, attracted 270 applicants this year before the list was closed at Easter. It can only offer 109 places and a number of students have had to be turned away.

Mr Miller appeals for peace as Scotland Yard investigates student finances

by Stephen Cohen

Nearly 2,000 new students at the Polytechnic of North London will be greeted next week by a students' union handbook attacking the polytechnic's administration.

The union handbook for the new academic year, which is just about to start, promises the new students, many of them fresh from school, that they will be amazed by the administration.

"Not since Napoleon decided to advance on Russia has there been a mistake of the magnitude made by the court of government when they appointed Terence Miller as director of the newly-constituted poly in 1971."

The author of this introduction to the handbook is its editor Mr Frank Barrett. He goes on to say Mr Miller is "a pleasant enough bloke, always charming to me, but he is not the sort to direct polytechnics."

Although the derogatory references to the administration of the polytechnic appear under the imprint of the students' union, Mr Barrett says this week that he was not too happy with Mr Barrett's introduction to the handbook.

"We agree with him but his opinion is a bit isolated and his choice of words slightly unfortunate," Mr Rosenberg said. The union's investigation into the finances by Scotland Yard is not causing undue concern within the union, according to the president. The Yard's special crimes squad is investigating the funds, not the company fraud squad.

A spokesman for the Yard said: "We have been asked by the Director of Public Prosecutions to investigate the students' union funds," the spokesman said.

Mr Rosenberg said: "In total we donate a minute proportion of our funds to external bodies—less than £300 out of £68,000 income. We give money to the Socialist Society and Conservative Society in the polytechnic. We also gave about £50 each to the Chile Solidarity Campaign and the Troops Out Movement."

However, a close reading of the resolutions passed at students' union meetings since 1971 reveals that at least £570 was voted to outside organizations, plus £100 for an emergency conference on grants.

"It is up to you to ensure that the available money is well spent in your interests."

He said he had not been aware of Mr Barrett's remarks when he wrote the introduction to the book and found them "extremely disagreeable and unfortunate." He added

down from introducing legislation to control student union finances four years ago.

The High Court ruling which might affect PNL was given by Mr Justice Brightman in November, 1971. If students wanted to make donations to charities or political campaigns, they should raise the money themselves, he said.

The union runs profit-making professional services for its members such as a bookshop, bars, buffet and dances. If a dance or disco theque was held with the purpose of raising money for miners or the Chile Solidarity Campaign, then the union might be safe from prosecution.

In PNL's case the dilemma is whether the union is a charity. If the polytechnic itself is registered with the Charity Commission then the union might be regarded as a "derived charity" and be subject to the High Court precedent. This in turn hinges on whether the union is a corporate part of the polytechnic and recognised as such in statutes or articles of government.

If that is the case the polytechnic itself might be brought to task for allowing the payments to be made.

According to the union's constitution, a general meeting is the supreme authority but the powers of the union are limited to a money matters. However, "when decisions of finance committees involve policy, such decisions should be ratified by the next following general meeting before they may be executed."

So on March 6, 1973 a motion to donate £100 to the Gasworkers' union was put to a general meeting and passed. All the donations have been approved in this way.

It was made clear by the second of the resolution that the payment was illegal. But, he said, that it was the union's duty to make outlay of striking gasworkers, why should students illegally donate money?

The Scotland Yard investigation followed a complaint by Mr Robert Adley, Conservative MP for Chislehurst and Leyington, to Mr Sir Silkin, the Attorney General. Mr Silkin referred the case to the Director of Public Prosecutions to consider whether a police inquiry would be justified.—TES

Open University to increase fees by 60 per cent

by Frances Gibb

The Open University is to increase its tuition fees by 60 per cent from next January. The decision follows an announcement last week by the Department of Education and Science that the OU's grant for 1976 would be worked out on the assumption that fees were raised from their current level.

The cost of a full OU credit course will rise from £25 to £40. To complete an ordinary degree from scratch students will have to pay an extra £50, so six full courses are the minimum requirement for matriculation.

A full honours course will cost students an extra £120. Fees for a half course will rise by 33 per cent to £20.

The Government has agreed, however, to augment the OU's hardship fund from its present £7,000 to £50,000. This fund is used to help students who have difficulty in paying their fees.

In a letter to the OU's 50,000 students sent out today, Professor Ralph Smith, acting vice-chancellor, said: "The university council has reluctantly decided it has no option but to increase course tuition fees."

The decision comes after six months of discussion. It was first shadowed last year when the Government gave the OU an extra £500,000 to take 6,000 more students, but at the same time asked it to consider increasing fees to a constant proportion of expenditure.

OU students already pay on average £532 for a full-length course. The minimum they can pay for a full course is £422, and the maximum could be as much as £1,000.

The OU agrees that its students' fees are already more than those of other students in higher education as a proportion of the university's income. OU tuition fees on average have represented 10.3 per cent compared with 5.4 per cent at other universities.

A decision not to increase the fees would have meant that next year the OU would have had to cut its budget by £883,000. This could have involved cutbacks in the development of new courses and severe reductions in services to students.

The university's recurrent expenditure is expected to reach about £15m this year. The budget for next year has already been cut by 10 per cent to contain a projected deficit of £1.5m to £0.5m.

Professor Smith said: "Given the earlier cutbacks, a reduction in the grant next year would have imposed severe cuts in our courses, development and services to students that in our view would have been worse for students than this rise."

Costs for students vary according to subject. Many OU courses include a one-week compulsory summer school, and some students degree requires attendance at four summer schools and science-based degree at eight summer schools, each at £40 a time.

Those feeling pinch in HE 'complain too much'—Peston

Complaints within higher education about being "squeezed" in the past year or two were completely unjustified, Professor Maurice Peston said at the weekend.

The former adviser to Mr Peter Adley, while Secretary for Education, told a conference of London comprehensive school head-teachers that it was right to give priority to the five to 16 year old group.

He continued: "I am concerned whether the Secretary of State has gone far enough. The high school sector has complained about being squeezed, I remain convinced that they complain too much."

NEXT WEEK

Sir James Richards on university architecture at East Anglia, York and Warwick, start of a three-part series.

Professor W. W. Robson reviews *The Living Principle*.

Eric Ashby on army advertisement.

Don's diary by Joel Hurd.

Frances Gibb on the European Institute in Florence.

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We have won the battle, Mr Miller claims

by David Walker

The battle for the Polytechnic of North London has been won, Mr Terence Miller, its director, declared this week.

He said that throughout its troubled five-year history it had not been allowed to close because its authorities had stood firm in the front line and not flinched.

Commenting on the controversial account of PNL's history given in *Rape of Reason* a new book by three polytechnic lecturers, Mr Miller said *The THES* in an exclusive interview that PNL could easily have been a dreadful example of what extremists could do if they were not opposed.

"In some respects the polytechnic's history is a demonstration of how comparatively easy it is for any group of malcontents to take over by perfectly legitimate means. But we were not taken over."

Nevertheless, Mr Miller warned

against simplifying the polytechnic's history. PNL remained open, its academic structure had improved and was now working well. It had the visible and tangible evidence of the approval of the Council for National Academic Awards and a string of successful new degree courses.

Flanked by his two deputy directors, Dr Norbert Singer and Mr Tom Roberts, who represent the new management team at PNL, Mr Miller spoke confidently of the polytechnic's future—though he admitted there were still individuals on the staff who had grossly abused the "holy cow" of academic freedom in the past.

Mr Miller said there were important lessons to be taken from the events of recent years. *Rape of Reason*, would open some people's eyes to what had been going on.

On the student question, Mr Miller said a small group were disrupters and people rightly asked

why they were not expelled.

"People stop me in the street and ask why the hell I do not throw them out. But that is precisely what the militants want. It would give them maximum publicity and the process of appeals would drag on and in the end they would get off, defended by character who would work any loophole in the regulations. Something like this happened recently at Lancaster University."

He endorsed the opinion of Dr Singer, who said that long drawn-out wrills could cause as much disruption as the original offences and cause unnecessary polarization.

The authors of *Rape of Reason* singled out two departments—sociology and applied sociology—as the locus of trouble. Mr Miller said it was significant that it was in sociology and not physics or history that difficulties arose.

"Sociology as a study is of immense importance but if you use it as a vehicle for preaching religion it is not admissible in our society or in our version of higher education." He said, "If you want to study Catholicism you go to a seminary; if you want to study sociology you go to a place to study it with an open mind in a disinterested and scholarly fashion. It is a gross abuse of academic freedom for people to preach sociology as religion and pretend it represents something scholarly."

Mr Miller appealed for commentators on PNL's affairs to have a sense of perspective.

"It is wrong for people to take small incidents and imply that the whole polytechnic is affected or that it is like this all the time. The key fact in all this is that academic standards are higher now than they were five years ago; the measures needed to tighten them have been taken making the polytechnic stronger."

Rape of Reason reaction, page 24. Lancaster troubles, page 9.

Crowther-Hunt hint of change in quinquennial system

by Peter Wilby

Lord Crowther-Hunt, Minister of State for Higher Education, "reassured the universities last weekend that he has nothing against them, that he admires their achievements and that he is anxious to protect their independence."

He added that the Government intended to put their finances on a long-term basis, as soon as possible, but hinted that the system of fixed quinquennia may be done and that the Government is seriously considering a rolling quinquennia.

In a speech to the University of Nottingham convention, Lord Crowther-Hunt said: "We must do something that will interfere with the principles of independence and autonomy. Governments are there to provide the resources—not to tell the universities how to use those resources, what courses to run or what to teach. It is a fundamental nature of democracy that our universities should be institutions of excellence should remain responsibly independent of government."

The only echo of the minister's pronouncements earlier this year on postgraduate planning came in a reference to a recent report on postgraduate education prepared by a Committee of Vice-Chancellors and Principals study group. The group was right, said Lord Crowther-Hunt, to underline the vocational aspects of postgraduate education.

"I have emphasized on several occasions the importance of the vocational aspects of the country's needs and hope, as the group reminds us, the universities are doing so, not just in the familiar postgraduate leading to professional qualifications and in many taught courses, but also in the post-experience courses which have provided in great variety and in response to specific needs of industry and the professions."

However, as the report says, the study group found there is very much to be said for the universities to have much effort they put into the post-experience courses. The minister also praised the universities for trying to make their courses more attractive, for having shorter courses than other countries, for having a lower student-teacher ratio and for providing



Miss Rosemary Murray, president of New Hall, after being installed as vice-chancellor of Cambridge University, on Wednesday. Miss Murray is Cambridge's first woman vice-chancellor.

Cash shortage threatens £74m science programme

by Alan Cane
Science Correspondent

Shortage of money has forced the Science Research Council to abandon two major scientific projects and defer two others, all of which the council considered vital if the standards of British higher education and research was to be maintained.

The fate of a further seven projects, worth a total of £74m over the years 1976-81, now hangs in the balance and in its annual report published this week the council warns: "It seems likely that some projects of high scientific merit will have to be abandoned because of the financial constraints."

The two projects definitely killed are the European X-ray satellite and the Mark VA radio telescope. Of 15 projects under consideration by the council last year, only five have been approved. They include the nuclear structure facility at the Daresbury Laboratory and the polymer engineering programme.

Among projects waiting for a decision are the Northumbria astrophysics laboratory and the electron microscope.

The report gives a grim view of the council's financial position.



In the first of a three part series, Sir James Richards analyses the architecture of York, Warwick and East Anglia—the new universities: "Most have tried to get away from the orthodox campus pattern," pages 6 and 7

F. R. Leavis
W. W. Robson reviews *The Living Principle*, the new book by F. R. Leavis, page 14

Among other reviewers: Max Beloff, R. A. Fletcher, Dennis Ogden and Paul Halmos

Ashby and the Army
Eric Ashby, in the first of a new series of columns, considers the implications of that notorious Army advertisement, page 5

Community engineering
Sinclair Goodlad discusses ways in which engineering education can be enriched by community service, page 13

Dr Graveyard's Ghost
Philip Thody on the lessons to be learned from university administration, page 8

Griffith's Law
John Griffith on the 1975 Lancaster affair: "Some university authorities learn little from their own experience and nothing from that of others," page 9

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Educate the elderly says Crowther-Hunt

by Philip Venning

Some empty places in colleges of education might be used for education courses for the retired, Lord Crowther-Hunt, Minister of State for Higher Education, said on Friday.

Opening a conference at Keele University on education for the elderly, he said there was room for considerable improvement in the provision of courses for the over-60s.

Because of the public expenditure cuts there would be no extra money for this group. But a great deal could be done without it. Requiring buildings could be used more efficiently and retired tutors could be brought in to take classes.

There would be about 10 million old age pensioners next year, rising to 15 million by 1980. Retirement need not mark an end. "It is a time for retraining, a time for creating for ourselves new and different opportunities if we want to."

Education had an important part to play, not as a way of filling time, but as a way of making up for lost opportunities and for generating new interests. Far too many assumptions were made about the interest, or lack of it, that old people had in education and about their ability to benefit from it.

"Age may result in changes in the processes of learning; but it does not mean that a mind necessarily ceases to be lively, or that men's or women's interests suddenly become restricted and stereotyped."

Mr Sidney Jones, of North London Polytechnic, said that universities, further education colleges, polytechnics, and colleges of education

Shadow of Mulley's smile brings gloom to ILEA chief

Mr Muller, Secretary of State for Education, is not smiling on higher education at present. Dr Eric Deval, education officer of the Inner London Education Authority said in his annual report this week.

"Growth in student numbers is looked for without growth in staff. Capital resources, badly needed by polytechnics housed in scattered many cases leased buildings, are very inadequate," he said.

"The departments which are overstuffed, by strict student/teacher ratios, are not attracting enough students and others having to turn away. Students cannot be given the staff to expand," he said.

He warned that the colleges of education now faced difficulties of rapidly reducing initial training numbers with the consequent problem of redeployment of many of their staff outside higher education.

He praised the smooth and successful reorganization of further education colleges in London and thanked teachers' organizations for co-operating with the authority's proposals.

Engineers face tough new requirements

The Institution of Mechanical Engineers is stiffening its requirements for membership, and undergraduates and graduates now in training will have to adapt if they are to meet the new conditions.

The institution, the professional body for all mechanical engineers, is bringing its training requirements into line with those laid down by the Council of Engineering Institutions.

After 1976 all graduates who want to be elected to corporate membership must have completed two years of practical training under the supervision of a chartered mechanical engineer and a log-book showing details of the training received will be essential.

Periods spent in industry during sandwich degree or higher degree courses are accepted by the institution as practical training, but all graduates who apply to institutional membership will have to maintain a record of their training verified by their industrial tutor.

In a statement this week, the institution said that all companies sponsoring students and colleges running courses should ensure that their courses meet the new requirements.

UK women marginally better off

by David Walker
Social Science Correspondent

British universities have been complacent about the amount of sex discrimination against women academics, two sociologists alleged in the *British Journal of Sociology* recently.

Dr Tessa Blackstone of the London School of Economics and Mr Oliver Fulton of the University of California, Berkeley, compared British and American universities and found there was roughly the same degree of discrimination in each.

But British university women were slightly less likely to be concentrated in the lower ranks, doing more teaching than research, and getting lower salaries than the Americans.

The authors examined figures collected in 1969 and found that in the United States there were no subjects where women's chance of promotion relative to men in the

same subject was appreciably better than among university staff as a whole, excepting education and social work.

Very few American women had chairs in medicine, whereas in Britain medicine and social science were fields where a relatively high proportion of women appeared especially successful.

British women had done comparatively badly in applied sciences and humanities because on the one hand where they were thin on the ground they were seen as "too deviant" by their male colleagues to fit senior posts, and on the other they were comparatively numerous, they fitted in as teachers rather than researchers and heads of departments.

The authors suggested that in a field like the humanities women might be inclined to accept the traditionally female role of "nurturer" and trim their ambitions accordingly.

Attempting to escape a pejorative definition of discrimination, the authors looked at the mechanisms by which women completed their careers in lower-ranking positions.

"When we speak of discrimination by institutions we do not necessarily imply that all of the otherwise unexplained differences we have found result from gross expressions of anti-female prejudice by individual members."

Throughout their article the authors emphasized that wider society outside the universities was responsible for discrimination and they concluded that sizeable changes could only come from equally far-reaching changes in the values of both British and American society.

All was not black, however, they pointed out that the universities were in the vanguard of providing opportunities for women. *British Journal of Sociology*, September 1975, Vol 26, No 3.

'Government plan threatens our future' college claims

by David Hencke

Government plans to end recruitment to teacher training courses at the new Luton College of Higher Education could place the institution's whole future in jeopardy, the college warned this week.

The college, to be formed next September from Farnborough College of Education and Luton College of Technology, is backing protests made by Parents of Luton Academics and teachers' groups urging Bedfordshire County Council to split its teacher training allocation between Bedford and Luton.

The group, which has the backing of Labour, Liberal and some Conservative councillors, was planning to table an emergency motion at a meeting of the County Council this week.

The motion calls on Mr Peter Browning, chief education officer of Bedfordshire County Council, to undertake a feasibility study to see whether it would be cheaper to provide teacher training at Bedford and Luton and divide the 600 places between the two centres.

The group also wants the new Luton college to keep an intake of teacher training students in September while the study is taking place.

Mr Hal Ewing, press liaison officer for the new Luton college, said: "The Government proposals as they stand would severely restrict our proposed Diploma of Higher Education course since we could not offer any options in teacher training for students. Our new DipHE course is, as a result, hanging fire until a solution can be found."

Mr Browning confirmed that the local authority had been asked by the DES to keep only 600 places in the county compared with over 1,700. He said that the authority had sent a deputation to see Lord Crowther-Hunt, Minister of State for Higher Education, to ask to be allowed to retain 800 places, but this had been turned down.

"The allocation of places will be discussed at the further education sub-committee, on October 13 and by the council on November 10," he said.



Dr Anthony Kelly will take office as the new vice-chancellor of Surrey University this week in succession to Dr D. M. A. Leggett who is retiring. Dr Kelly, FRS, has been deputy director in charge of the materials groups at the National Physical Laboratory.

1 in 3 unhappy with architect training

by Frances Gibb

One in three architecture students feel their courses to be an inadequate and irrelevant training for practice, according to a survey report in the latest issue of the *Architect's Journal*.

It suggests architecture schools should adopt differing educational policies, some vocational and some more academic, in order to cope with varying needs.

The survey carried out in 1973 by Valerie Wigfield and Robert Fischer, of University College, London, attempted to find the main differences between architecture education and practice; to see how practical training helped bridge the gap between education and practice

and to see how well education prepared students for jobs.

It took as a sample two groups of students: one of 433 students, started its course in 1960, and the other, of 572 students, started in 1964. About 91 per cent were male and nine per cent female.

Under half of the students qualified professionally within eight years of starting their course. Of the rest, at the time of the survey (1973) 29.5 per cent of the 1960 group and 40 per cent of the 1964 group had not yet passed part three.

Students are now beginning to move away from the traditional pattern of education. Many will not port portfolios. The survey report concludes: "Many will not attempt the final qualification because they seem 'inappropriate' and irrelevant." It suggests "the fixed period of education is too rigid an approach for a discipline in which learning continues well beyond completion of academic courses."

Relating students' pass rates to the kind of college they attended, it was found that students from the independent schools of architecture showed the lowest rate of qualification while students from the polytechnics had the highest. University graduates were most likely to go to further courses after passing part two.

Most students felt that their period of practical training during the course did not equip them to deal with practice.

Don's diary

Goddess Ucca

It is well known that with the first frissons of autumn the goddess Ucca, her computerized face as expressionless as ever, proceeds to bestow her harvest of entry forms on those waiting for her gifts. But we are still not wholly sure how to use her bounty.

How well do we do our job of sifting, assessing, interviewing? The criteria used by some universities can, on occasion, seem harsh, and even a little bit arbitrary. I am especially wary of the reliance on those clunky, insensitive juggernauts, the Advanced level examination. But we have so little to go upon.

I pay a good deal of attention to a headmaster's report, unless the report tells me more about the headmaster than about the candidate. But I also like to see a recent essay by the candidate (and assume, of course, that it has not been written by his history master); and an interview can, though not invariably, be very helpful.

Tricks of the trade

Once after reading a paper at a conference I was invited to a lecture given there by a history master of a school famous for getting boys into university. He explained some of his methods; and, if the Watergate conspiracy had been as clever as the Nixon administration, he might be President of the United States.

I remember one trick in particular. An important but difficult monograph might appear shortly before the candidate went up for entrance examination. The master read the book and passed on a summary of it to the boy. The boy half digested it and presented it in the examination in a botched-up form. The done read it and said: "He is a very intelligent candidate who has been badly taught. Let's take him."

One candidate who stays in my memory was certainly no pretentious affair. He took the initiative early in the proceedings, was unbelievably arrogant and stamped on the corns of everyone in sight. At the end of the interview I said I had one last question to ask: what did he think were the qualities essential to an historian?

He replied: accuracy, patience, historical imagination and understanding, and much else. I suggested that he had left out one quality and he asked what it was. I replied: humility. He looked at me, said nothing, and we parted.

He was an intelligent fellow so, in spite of everything else, we gave him a place. He came to see me at the beginning of term and, after a few preliminaries, got on to the matter which was foremost in his mind. He began: "I am very sorry to hear that one of the essential qualities of an historian was humility? I did remember. Well, he said, I have been reading some of the books on the writing list. I can't say I found even a hint of humility in the whole tribe of them. *God, see and match.*"

But on one aspect I hold dogmatic views. However fatuous, eccentric or provocative a candidate may be, and there are few such, he must be treated with the utmost courtesy. He may have come a long way at heavy expense to his parents or school; and he may be nervous or "tired" after very considerable effort. We are to bring out the best in him.

A young woman I know, somewhat above school leaving age, went this summer, at her own expense, for a university interview. She had the misfortune to be interviewed by a smart aleck who was insensitive, witty, cynical, disparaging. Within a few minutes he told her she was ineligible. He had done his homework: he could have saved her a good deal of trouble and expense by coming for interview.

There are very few cases like this. I have come upon; but even a tiny minority can damage the profession. It is, unfortunately, all too possible to be academically qualified but socially illiterate.

As others see us

I wonder whether many people have received an unsolicited testimonial from a total stranger. I am told that Arnold Bennett carried a sovereign about with him to give to the first literary agent who brought him a letter. In that case I am never likely to encounter anyone engaged in reading one of my books on his travels. But I have received what I call an unsolicited and informal testimonial.

A friend of mine, travelling back by train from a university city last spring, found the undergraduate who had written them "Ninety."

He carried a spear

The time comes, three years later, when we are not reading "Ninety" but writing them. Ninety.

five per cent present no difficulty. The other 5 per cent may cause a certain amount of heartsearching. Unless there are strongly adverse reasons I would write as favourably as the evidence permits of a student's work and his social and other interests, though sometimes one has to scrape pretty far down the barrel. But even if he did no more than carry a spear in *Macbeth*, at least he carried it and did not drop it.

Can one, therefore, say that he left his mark in amateur dramatics, though I would not want it to be taken as a sign that he had spent a first but not wholly sure how to use her bounty.

There is a good precedent for this. When a journalist brought to Natalie Wood the news from Cambridge, Mass, that the Harvard undergraduate who wrote the worst actress of the year she replied: "Thank you. It's good to know that the boys at Harvard have been thinking about me."

The lady had wit as well as charm; and in due course she went to Cambridge to collect her award.

Crisis

Are the academic arts passing through a crisis? I have just received letters from two American friends writing quite independently, and angrily criticizing a brother historian, Robert Fogel, for his assault on the English language.

Fogel is one of the great quitters of the contemporary scene. If a thing is worth saying, it is worth saying in a complicated, statistical, even angrily critical, brotherly manner. Robert Fogel, for his assault on the English language, would be able to understand.

His work on American slavery is important if controversial; but in describing himself as a "climaticist" he is taking as many liberties with the language as bad historians take with the facts. The word was not invented by him. According to a letter to *The Times Literary Supplement* it was conceived as a joke at Purdue University, was taken seriously and has now moved into the English, French and German languages.

Of course there have been too many vague, loose generalizations by historians. However, we now face the serious danger of assuming that subjects which can't be quantified are not worth doing.

But history is the study over time of man's relations with society. It is concerned with the acquisition and use of power, with success and failure in government, with authority and freedom and dissent. It deals with the thought and faith and culture of past generations and with much else.

Some of this material can be quantified. Many problems, including the most subtle and profound ones, cannot be. If the climatologists bring down their heavy weight on all aspects of history they will stifle it as an academic discipline and the subject will gradually die on its feet.

Is English Literature passing through the same crisis? In the early days it was sometimes accused of being no more than a pleasant exercise for leisured gentlemen who liked to spend happy days sitting in a punt on the river reflecting on the works of Shelley. No, said its defenders, we have as severe a discipline as any. Anglo-Saxon is compulsory and textual, as well as literary, criticism is technical, specialist and scholarly.

When I once complained that I couldn't understand a review article about a modern poet, I was politely asked by a practitioner of the craft: why should you? Now, whatever I expect to understand an article on Mallarmé in an engineering journal.

English literary scholarship is undoubtedly the best in the world. At its fringes it has the trendy patina of some of the Sunday pundits whose introspective searches into literary texts bring delight to their coteries. At the opposite end other scholars are computerizing Shakespeare which will add to our knowledge of the dramatist but not necessarily to our delight. For myself, I prefer Shelley to a punt.

Nothing has been heard lately of the scheme to computerize the Old Testament to see which sections are the authentic voice of God. All we need now is for some ill-disposed person to dig out its findings and pass them on to a couple of avant-garde bishops.

Joel Hurstfield

The author is *Asst. Professor of English History at University College, London*.

Article in *Sic John Neale 22*

had a supervisor from a young don who was busy "denouncing Hurstfield for his article on Tudor despotism."

I shall never know who the tutor was nor would I in any way want to criticize him. If indeed, as he should by chance read this column, I should like him to know that, in keeping with the best academic traditions, I would defend with all my resources his right to denounce Hurstfield, unless, of course, he manages to collect more interesting material. Perhaps, if he will be kind enough to ask me to dinner at his college (so that he can reveal to me why he objects to diversity of opinion) I should be delighted to accept.

There is a good precedent for this. When a journalist brought to Natalie Wood the news from Cambridge, Mass, that the Harvard undergraduate who wrote the worst actress of the year she replied: "Thank you. It's good to know that the boys at Harvard have been thinking about me."

The lady had wit as well as charm; and in due course she went to Cambridge to collect her award.

Crisis

Are the academic arts passing through a crisis? I have just received letters from two American friends writing quite independently, and angrily criticizing a brother historian, Robert Fogel, for his assault on the English language.

Three years at university can better three in the army



ERIC ASHBY

After a halcyon summer there is a red and ominous dawn to the new academic year. We can expect gaps between income and expenditure, draconian policies to cut costs, inflation by the National Union of Students to organise rent strikes, smouldering resentment among the Association of University Teachers about salary differentials between themselves and their brethren in polytechnics; and, on the horizon, prospects of unemployment for some graduates.

There is a comforting proverb for those about to face these troubles: "The hungry pack hunts best." If these multiple adversities strike universities together, to streamline their aims to define their objectives, to jettison superfluous, the adversities may be a blessing in disguise.

The academic life has become costly, with all the range of diet and dress, and the cost of a soldier's uniform is a discipline in exercise initiative only within a very rigid framework of obedience to constraints.

Is it possible that this kind of adherence to orthodoxy—in design, in labour relations, in management, in the cause of discipline in British industry? I wonder whether some of the signatories to this advertisement would not be better served by bringing into management a few new recruits, who will soon enough cut their hair and shed their uniforms and T-shirts, whose disposition may be to question the policies of the board, and who would bring to decision making a critical spirit of dissent, not mischievous dissent, but that unquiet of disciplined and constructive dissent which is part-and-parcel of a good academic training—even in medieval French universities.

Nobody in his senses doubts the value of the technologists in British industry. What I suspect some of these eminent tycoons do not realize is that the value of a good technologist to industry lies not so much in what he knows by way of thermodynamics or microbiology or whatever: it lies in the way he thinks about problems; and the same is true when problems of management or labour relations have to be tackled; and I would submit that three years at a university, where a student is taught to think, is a much better training than an army training would equip him, to perform these functions.

Anyway, this point of view is worth pursuing, and it is the sort of question (there are others) which British universities, during this period of financial privation, would do well to answer unambiguously and emphatically.

I do not suggest that the Committee of Vice-Chancellors and Principals should put a full page advertisement in *The Times* similar to the one put in by the Army. In any case, I doubt whether they could muster such a distinguished list of captains of business and industry to subscribe to it.

But in making a counter-claim for the value of a university education, without overlooking the fact that the benefits of a military training, the universities could declare to the public how best the limited resources for higher education should be deployed; and they could make clear just what the unique, specialized contribution universities make to British society.

Lord Ashby, a former vice-chancellor of Cambridge University, was Master of Clare College until last month. His column will be appearing regularly.

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The Government's programme of university expansion, announced in February, 1958, produced a great variety of architectural solutions to the problems caused by student expansion.

Sir James Richards, editor of *Architectural Review*, 1937-71, member of the Royal Fine Art Commission, 1951-66, and architecture correspondent of *The Times*, 1947-71, assesses the success and failure of these solutions

in a special three-part series for *The Times*.

The first article looks at the universities of York, East Anglia and Warwick as examples of the wholly new institutions.

The second will examine new buildings at the older universities and the last will deal with Oxford and Cambridge and the problems caused by restrictions in finance.



Sir James Richards

Green campuses beyond the city walls

A university is more than a machine for teaching. It is the setting for the formative period during which a student learns to adapt himself to the problems and responsibilities of social life—which for the majority means urban life. A university is also, like a major hospital and a well-provided arts centre, part of the equipment a town with any self-esteem aspires to possess.

Both these are reasons for beginning an appraisal of the architecture of the new universities by discussing their location, and for regretting that without exception none of them is in a town, but all chose sites that exemplify what may be called the golf-course fixation.

Those not actually built on a golf course occupy a suburban site that could well have been one—a tract of green countryside just outside a town. Each new university in turn rejected the idea of integration with the town; that is, the opportunity of creating a university town on the model of Oxford or Cambridge.

Yet the choice of ancient cathedral towns as the location of several of the new universities—York, Norwich and Canterbury—suggests that such a relationship was envisaged at one stage. In all three of these, as well as at Lancaster, there was ground available within the medieval walls, though probably not enough for the space-consuming needs of science laboratories which might have had to go outside (as they have, for example, at Edinburgh).

This is less than ideal since it tends to create a separate science community, and the social life of a university should not be vocational; yet it is to be regretted that at least one or two of the new universities did not accept the social challenge of experimenting with an urban environment. This would also have been a challenge to the town, and one it could not have ignored, as Brighton, for example, can ignore the presence of a university but a few miles from its centre.

The golf-course type of suburban site had obvious advantages: similar building operations; speed of construction; relative cheapness. Integration with the town would have meant a complicated planning and land-acquisition programme in partnership with the local authority.

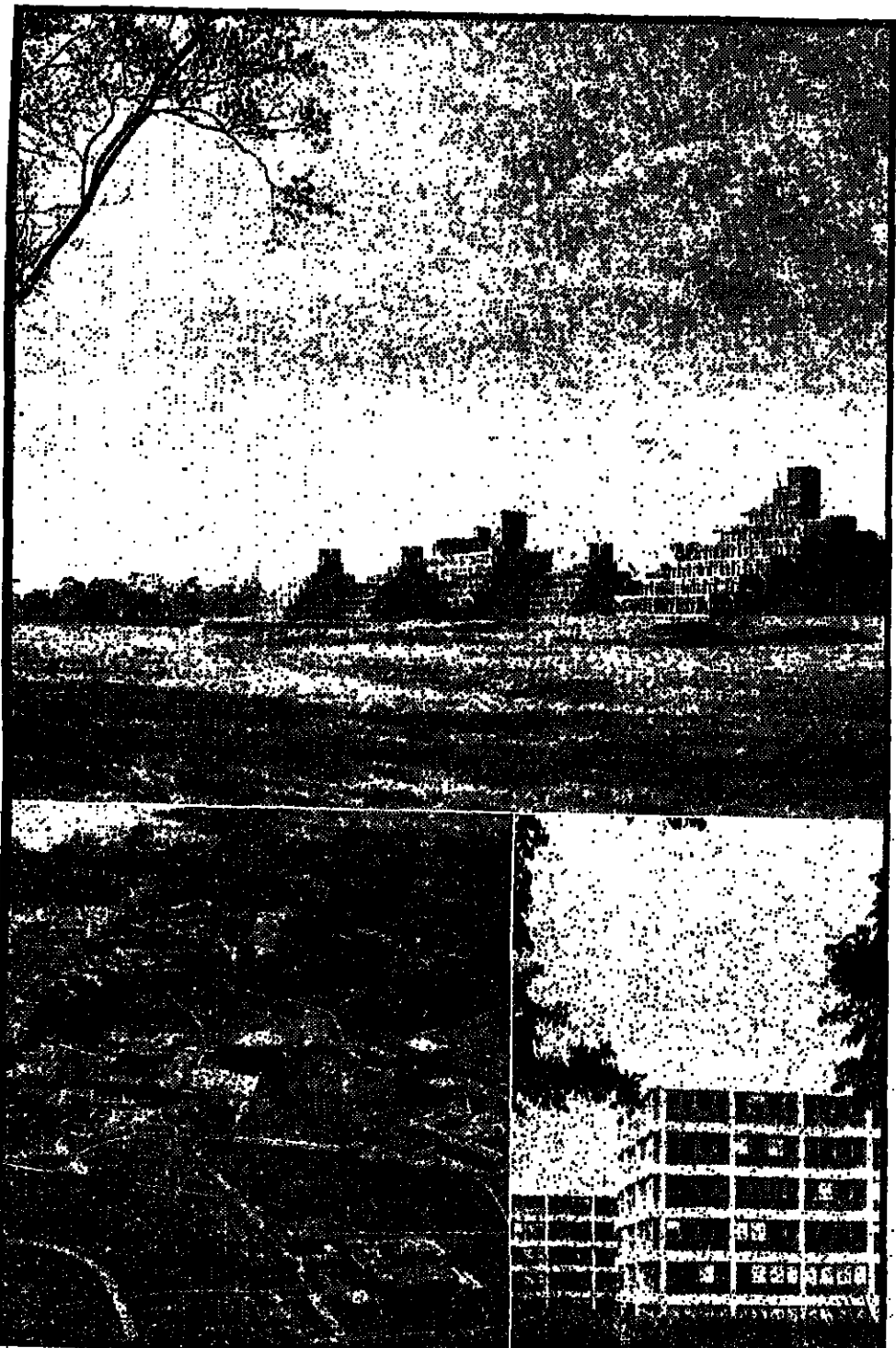
The main reason for choosing the suburbs, however, must have been the ruling of the University Grants Committee, issued at the outset of the new universities programme, that each should be self-contained on a site of around 200 acres. This was to be enough for both its residential and its teaching accommodation—a requirement subsequently made rather meaningless by withdrawal of funds for residential buildings.

The UGC decision made for initial ease of operation, but some of the problems, especially the social problems—now being experienced arise from it. Isolated communities create their own internal tensions, as Essex University has recently demonstrated. In addition, the absence of contact with the daily life of a town is just as damaging as the nine-to-five attendance habit that was thought to be the drawback of not having the students living where they are taught, which at least a third of the students in the new universities do not do anyway.

The new universities, aiming to fulfil the wide educational role required of them, thus began with an environmental handicap. Now that their planning helped them to overcome it, have any of them created a positive environment of their own with compensating, if different, virtues?

Most have made interesting attempts to get away from the orthodox campus pattern which arranges isolated buildings, each with its own label and purpose, in and around a green space. The nearest to the orthodox is Sussex. Its large, lively redbrick, tree-grouped campus, once given some coherence and help them serve as a foil to their beautiful downland setting, but they are laid out on a central axis that is more emphatically marked architecturally than the initially lively redbrick uniform (described by Sir Basil Spence) became boring in the mass, and does not even allow of any visible distinction between teaching and residential buildings.

A contrast is Lancaster University, which has been laid out with no pretensions to monumentality, but as though it were in fact a town. It has streets and squares and a variety of high and low buildings, many of which are of mixed use, since the university is based on the collegiate system. And in



Top: East Anglia—the effect is of a great citadel; left: York—outstanding landscape planning; right: Warwick—appears rather industrial in character.

addition, like a real town, it has a mixture of good and bad buildings.

The University of Kent at Canterbury has the same mixture, and is also based on the collegiate system, but to see this system creating its own characteristic environment we can best go to York.

One would mistake York University for an actual town because it has so obviously been designed as an entity by a single firm of architects (Robert Matthew, Johnson, Marshall and Partners). In fact it is the only one of the new universities to have started with a master-plan to which it has kept and which it seems likely to complete unaltered.

This has enabled it to create a number of virtues. Outstanding among them is the quality of its interior landscape, planned from the beginning. Lawns and trees border an irregular lake that winds among the buildings; the grey surfaces would have been like a water-prove, the lake arose from the need to drain a swampy site, and the opportunity was imaginatively taken.

The sameness of the wall surfaces arose from the use of a prefabricated structural system, chosen not so much to save money as to simplify procedures and save time. The few large buildings that the lecture did not suit—namely the central hall and the library

—are in grey concrete too but are more massive, which is a gain aesthetically. They add strength and substance which, because of the absence of much surface modelling, the general run of the buildings lacks.

Some of the covered ways connecting the buildings, invaluable functionally and ingeniously designed to carry service pipes in their roofs, also took a little inauspicious—almost makeshift—but it should be added that York, after a whole still in a good state after eight or ten years of use, holds the belief that prefabricated building systems are unsuited to such dignified purposes.

It is, however, a little disappointing that some of the more recent buildings at York, especially the biology building and Westworth site, show a decline in architectural quality. Blame for this may very well fall on the UGC, who have steadily driven down the limits to the point where good architecture becomes difficult. The same cause no doubt explains the deficiency of sound insulation within the colleges, which is much complained about.

York may possess some of the visual consequences of a town, but does it in planning compensate for the new universities' shortcomings in isolation—by, for example, some streets and squares, or by a variety of building heights and styles?

by the footing it has inside the city through its departments housed in the King's Manor. The collegiate system, whereby residential and teaching accommodation share the same buildings, ensures a diurnal mingling of population, a process intensified in the first routes passing right through them. This system, on the other hand, can result in the students in each college leading a separate life, since they are self-contained with their own refectories and common-rooms.

There is no central place where everyone meets socially. Demands that have lately been made by some students for a central union are unrealistic, since the whole cellular conception of this university is based on subdivision into colleges, and on the idea of creating a multi-centre society composed of units small enough for all to know the others.

In fact, only about 57 per cent of the students live in colleges, although every student, wherever he lives, is attached to one or other of the colleges and has the use of its social facilities. Those not in colleges live in flats or lodgings.

Unfortunately, insufficient lodgings in the centre of York prevents this from providing an active link between university and city. Off campus as well as on, the student at York—like the student at the other new universities—tends to remain a suburban animal.

Universities are growing all the time, at least when the financial situation permits, and one merit of the layout of York, which it shares with Lancaster, is that at every stage new building takes place on the perimeter so that staff and students do not have to suffer the discomforts of living and working beside, or walking through, a building site.

For financial reasons York University's construction programme has at present come to a halt. It is hoped, nevertheless, to increase the student population from the present 2,800 to 4,000 by the early 1980s. This can be achieved by building one new college and adding only a few new specialist teaching buildings.

The first priority is to extend the library, the present section of which was built 10 years ago. All can be accommodated within the master-plan and will not require the filling-up of the open spaces that give the university's layout its unique character, one of whose special merits is that of creating an environment dominated by people; none of the buildings is overpowered, as happens at Essex and to some extent at Lancaster and Warwick, and no motor cars enter the main precinct.

The University of East Anglia is a contrast, but to say so is not a criticism for the whole conception is different. The visual effect of the university, especially when seen from the lower end of the former golf-course (where the river is being widened by exploiting the processes of gravel extraction and transformed into a broad), is of one great citadel of buildings, with a line of teaching departments rising behind a stepped residential building, and with the green foreground reaching into it in the form of a partly enclosed bay.

These constitute the nucleus designed by Denys Lasdun and have endowed the university with a positive character that do subsequent variations from his original layout have been able—indeed have attempted—to alter.

It remains a powerful complex, freed from oppressiveness by its high-level circulation system. One walks in the air, with as much of the building falling away beneath as towering over one, and this affords a sense, though in a different way from York's, of people being given priority over structures.

There was a time when East Anglia University was first occupied, when the high-level walkways seemed to be doubtfully successful and much use was made by pedestrians of the ground levels between and around the buildings. But now the walkways have come into their own, and they all lead somewhere, they are convenient, and enjoyable to use—at least in good weather—and the deep spaces between the residential and teaching buildings are left, as intended, as no more than service yards.

These spaces, nevertheless, are the least satisfactory element in the layout. Backyards, it is true, are a functional necessity, but they are seldom a pleasure to the eye, and at East Anglia one cannot avoid looking down on them, unduly furnished with bins, crates and service vehicles, even many

Accommodating arts and sciences together is not unsatisfactory

Lasdun's range of buildings, largely in pre-cast concrete, have weathered well, and the later buildings by other architects, especially those by Bernard Feilden, who has succeeded Lasdun as the university's consultant, maintain the handsome effect of the whole.

These include a block of restaurants, and common-rooms flanked by a shopping street and enclosing, where the walkways descend to ground level, an amphitheatre-like space which admirably fulfils its intended role as a social focus and outdoor meeting-place. Incidentally, in contrast to York it underlines the difference between the centralized and the collegiate conception of a university. The new buildings also include a building on the point of completion which will serve as a combined registry, council house and administrative centre and which closes the view along one of the principal walkways.

The student residences in the stepped blocks, which form the frontage of Lasdun's buildings and give them their characteristically sculptural form, contain 600 rooms. There are nearly as many in rather bleak residential development to the east, less sought after by students because less spacious internally (the stepped blocks were to some extent privately financed) but recently made less institutional by being sub-divided into groups of 14 rooms, each with its own stairs.

East Anglia houses a larger proportion of its students than any other university except Oxford and Cambridge—70 per cent of a student population of 3,000, 1,500 live in the two buildings just mentioned, and another 500 in an old RAF camp not far away which has its own community centre. The remaining 900 are in flats or lodgings in Norwich.

It is planned before long to increase the numbers to 5,000, with the help of more residential blocks on the eastern part of the site. This is bound to some extent to obscure Lasdun's original conception, but today cost determines everything.

To accommodate the additional numbers on new teaching block (for arts subjects) will also be needed this year, and the present long cliff of teaching buildings, as planned by Lasdun. Incidentally, the principle, criticized when the plan was first made, of housing arts and sciences in the same range of buildings and therefore with the same internal layout and window facing, has not proved unsatisfactory in practice.

As in other universities, the economic situation has brought East Anglia's normal building programme to a halt, following the completion of Lasdun's library last year and of the registry building this year. But the university is fortunate in having one promising new building about to start, which it owes to a private benefaction.

Lord Seinsbury is bequeathing his art collection to the university and is donating a building to house this collection, the university's own collection, the fine art department and a new senior common-room. The architect is Norman Foster, who has chosen a site at the western end of the main range of buildings, where Lasdun meant the stepped residential block to be continued.

It will stand a little forward so as to enclose some of the green space in front of the residences, and Foster has solved the problem of adding something relatively so much smaller to the great concrete mass by designing it as a contrasting glass and metal structure.

If York stands for the collegiate university and East Anglia for the highly centralized one—each designed to be extended outwards—that at any stage the university is a

complete entity—Warwick University can stand for the opposite conception: one with a plan, of which each element is placed in its desired situation irrespective of the building timetable.

The result is that until the whole programme is finished, building work is going on all over the site, and there is little suggestion of an ultimate design. Moreover the site was flat and featureless, with few mature trees; and even now, with many buildings on it, there is little sense of place, almost none of enclosure.

Nor, in contrast to York and East Anglia, is any pattern given by a well-marked pedestrian circulation system. High-level walkways were planned at one stage, but they survive only between the library and the physics building.

The influence of these somewhat negative factors on the university's social coherence is hard to determine, but they mean that Warwick must be assessed architecturally more as a collection of buildings than as a totality; the former is what it looks like. The main group of teaching buildings, by Yorke, Rosenberg and Marshall—flat-roofed rectangular blocks faced with white glazed tiles—are rather industrial in character though spacious internally and beautifully finished inside. The arts block—one of the into groups of 14 rooms, each with its own stairs.

At the other end of the main site, a multi-storey car park that could belong anywhere, a dominating arts centre opened a year ago—a first-rate building, by Renton, Howard and Wood, with a high irregular outline that provides a much-needed relief to the level roof lines elsewhere and a beautifully proportioned interior—and a somewhat indeterminate building by Alan Goodman on the point of completion.

Between this and the arts centre a multi-purpose building was planned but postponed by the recent economic cut-back. By filling the empty space it would have given more coherence to this end of the site. Also nearing completion is a little building for business studies by Gabriel Epstein (now the university's consultant), faced, unlike any of the others, in red brick and oddly different in scale from its neighbours.

Beyond these again are various residential buildings, of which the most interesting is a group of angular-roofed houses, also by Goodman. He was responsible, too, for the separate complex of buildings a mile or two away, known as the East Site, with which the university started.

These buildings have a much more sympathetic quality and a more human scale than the buildings on the main site. They are now used for mathematics and other teaching and have their own common-rooms, providing another instance of the university's dispersed identity. Near them is a particularly ingenious and original group of houses in yellow brick for visiting mathematical fellows, designed by the late W. G. Howell.

Warwick University has 3,200 students and expects to grow fairly quickly. 2,700 students are housed in university-owned property, but relatively few on the main site which, as the foregoing description indicates, has splendid provision for catering for large numbers somewhat after the American fashion, but little sense of being a residential community. Nor does there seem to be, on the other hand, much impetus towards building up a constructive relationship with the towns—especially Coventry—which lie close to it.

East Anglia's high-level walkways dispel the feeling of oppressiveness.



Independence, integration or cannibalization?

Stella Clayton proposes some desirable features that should follow mergers of colleges of education and polytechnics

Most colleges of education incorporated in polytechnics will become departments of education; or, if they are large enough, schools or faculties of education. The definition of their functions and the nature of their connexions with other parts of the polytechnic will depend on the model of teacher education which is explicitly or implicitly chosen.

A spectrum of relationships between the former colleges and the rest of the polytechnic can be defined, ranging from a relatively self-contained unit dealing with all the functions of teacher education, through various types of integration, to form where the functions of the former college are virtually dispersed throughout the polytechnic.

It is unlikely that this final form of extreme cannibalization will be found, since the education department in most institutions will continue to provide courses in theory and practice; but it is likely that partial cannibalization may take place, in that the functions of the present "main subject" departments will be merged with the corresponding polytechnic department where these exist. The main argument of this article is that such an apparently logical model is undesirable, should be challenged, and that alternatives exist.

Arithmetical model

The various positions on the spectrum between independence, integration and cannibalization must be related to the academic and professional models they imply. There is an administrative logic in education, in the joining of courses in specialist subjects provided by other departments where these exist in strength, rather than such students having special provision made for them.

However, such a decision entails a number of consequences: splitting off the professional aspects of subjects from the "pure" study of subject-matter; a lack of integration between the theory courses and the study of specialist subjects; and probably a consecutive rather than a concurrent pattern of training.

In this model, the education of future teachers is presented as a process of addition: specialist subject studies plus professional courses plus teaching practice equals teacher education. It is not to be denied that such an atomic approach exists in many present integrated courses, but now arises in the fundamental reappraisal of teacher education which is taking place, and the possibility should not be discarded prematurely.

In the arithmetical model the opportunities for planned and principled connexions between parts of the course are reduced to a minimum. Moreover, this is a very second-ary-orientated model, which remains attached to the old rationale of the main subject providing personal development, unlike, presumably, the rest of the education which must be identified as mainly professional.

However, it is possible that a better way of educating the future primary teacher might be a study of the primary school curriculum, rather than other specialist studies. Such a study may be as academically demanding and as relevant to personal development as more traditional approaches.

Moreover, even for future secondary teachers, the arithmetical model has severe drawbacks. (It is assumed in this discussion that many junior/secondary students will be provided by other departments some selection just to be made from a choice designed for other purposes. The time devoted to particular aspects of a subject may be quite out of proportion and may exclude the study of other essential aspects.)

Very often the approach to a subject will have a bias which is related to other purposes. For example, mathematics or science courses may have the needs of industry in mind. This approach cannot be simply added to other provision, since it should guide the content of a course for a future teacher throughout.

It would, therefore, seem essential to look very carefully at any proposition to base the organization of teacher education on participation in existing courses.

Even more damaging may be the unconscious assumption that the "subject-in-itself" should be divided from professional considerations related to teaching. It is true that this has been the predominating model in teacher education to date, but an opportunity now arises to remedy such a divisive approach, and to produce an integrated course where a "professional" and "subject-matter" aspects illuminate one another.

It is clear that if the proposition outlined is accepted, the responsibility for courses for intending teachers must lie centrally in the education department (or its equivalent), including responsibility for specialist subjects taken by such students.

What then is the relationship of the rest

of the polytechnic to the department of education in this model? Is the department to remain an encapsulated college of education set down in a polytechnic, not basically changed by its setting?

Such a position is untenable, since one of the reasons for incorporating teacher education in a polytechnic is to enable a sharing of resources, expertise and knowledge to take place, so that the horizons of future teachers can be widened. The central problem is thus how to preserve coherence and purpose in the education of future teachers, while extending their opportunities in accord with the much greater resources available within a polytechnic.

Within the model I have suggested, many different kinds of sharing and extension are possible, depending on the nature of the institution and its staff. Once a core of essential studies for intending teachers has been formulated, there may be joint teaching of certain aspects of the course by the department of education and other departments; and outside the areas of the central core, education students may join other suitable courses provided in other departments.

The choice of a consecutive model is often justified on the grounds of the desirability of deferring choice of profession to the latest possible moment. We thus have a watered-down version of the alternative path to teaching—a degree followed by a post-graduate training.

The weaknesses of this model have been made only too evident, and the remedy may not lie in the improvement of the professional year. There is, in this model, no necessary connexion between the first three years of study and the professional element which is added.

But in the new consecutive model, the weakness of the three year degree followed by the graduate certificate may be exacerbated: two years, not three, of academic studies will be followed by a professional year to give future teachers an unclassified degree plus professional qualification. It is true that the first two years will include a study of education, but such a study unrelated to school experience may become as unrelated to teaching as any other academic subject.

All this in the interest of deferred choice? But on what basis can an informed choice be made? Only on the basis of contact with and knowledge of schools and children.

In fact, it still seems likely that a large number of students will choose teaching as a career before they embark on a course of study. However, whether such a body of students will continue to exist will depend on the provision made for them.

It is sometimes said that the attachment of college education to a concurrent model is more sentimentalism, use in accord with the needs of the new situation. However, such an assumption is by no means justified. The choice of a consecutive model may well be based on administrative convenience rather than educational principle.

Probably the most difficult and critical question is the preparation of future teachers: the relationship between theory and practice. Much of the present criticism levelled against teacher education is that links between college-based studies, especially the theory of education, and the practice of teaching are insufficiently articulated.

Gradual introduction

A separation in time between academic studies and school experience, as in the consecutive model, increases the difficulty in ensuring the integration of theory and practice. What is needed is a gradual and structured introduction to teaching, in which the student initially takes a predominantly spectator role, and progressively moves into participation through contact with individual children, then groups and finally, can assume responsibility for an entire class.

The concurrent model enables such graduated experience to be interrelated with theoretical and academic studies as part of a total process, to their mutual benefit.

The polytechnic setting should enable a proper value to be placed upon practical aspects of the course, for polytechnics have a long tradition of practical and applied work. The Concurrent pattern should also find ready understanding and acceptance in polytechnics, with their experience of sandwich courses.

One scheme of the type I have suggested, with central elements supplied by the department of education, but with other courses being utilized, fits most easily into an institution which has adopted a modular structure, but is still possible within other forms of organization.

It will be seen that the consequences of the model of teacher education which I have described is, in organizational terms, the existence of a strong department of education which is integrated into a polytechnic through the sharing of teaching and resources, but which brings to the polytechnic its own professional ethos, and the experience, skill and knowledge of its staff.

The author is joint deputy head of the department of teaching studies, School of Education, at the Polytechnic of North London.

One man's view of the lessons to be learned from university administration

Why Dr Graveyard's interest is good for you

It is a phrase that recurs with some frequency in the obituary column of *The Times*. Soon after his appointment as professor of medieval marketing, his colleagues discovered Dr Graveyard's interest in the way the university's affairs were run; and his involvement in administration was such that there were few committees on to which he was not elected as some time to serve.

I know what they mean; and looking back over the 10 years in which I have yielded to what academic purists call the temptation of bureaucratic frivolity, I occasionally wonder whether they have not been wiser than I. S. Eliot of the *Four Quartets* would have called "years largely wasted".

Initially, the temptation was strong because it was unfamiliar. In my heroic and blissful years at the Queen's University of Belfast, lecturers held the bar were not admitted to the councils of state. It was an exclusion which nourished the belief that there was, somewhere, a centre to the power which seemed to radiate so obviously through the academic community. Election to the council, I thought, was not at Queen's itself, meant that I was how going to find out where the power lay.

Membership of committees, for an arts man who seemed not only keen but relatively sane, was suddenly easy to achieve. Meetings, seminars, business developments, priorities, the BEd, research degrees, finance, admissions, grants for publications, honorary degrees, even medical readerships and the interlocking of various university bodies, all throw open their doors to welcome the neophyte in.

The discussions were interesting, the personalities fascinating; but that centre of power, the holy grail to whose quest I was committed, remained perpetually elusive.

Perhaps, like Galahad, whom in other ways I never resembled, I failed to ask the right question. Perhaps, like the purloined letter in Edgar Allan Poe, it was so openly

exhibited that I never recognised it. Or, more probably, like the order which supposedly brought the fami surveyor to Kafka's Castle, I never found it because it does not exist.

It certainly does not lie with that self-interested invention of student radicals, the administration. The registrars, secretaries, bursars, assistants, bursars and administrative assistants are all far too busy to indulge in the complicated plotting which is the indispensable prelude to the capture and exercise of power.

It is not just that university administrators accept with utter seriousness the Civil Service myth that initiatives come rightly only from elected representatives. They are subjected to so constant a bombardment from the academic organizations which really null the strings—the NUS, the UGC, the DES, the UCCA, the CVCP—that the idea of purposefully and consistently influencing events can come to them only when they are too exhausted to do anything about it.

They may, of course, occasionally give events a little push, but power lies in the romantic, revolutionary, continuous sense does not seem to either with them or with any other group that I have seen in a university.

"All power", we used to chortle as we gazed at the Caledonian professors of medicine majestically silhouetted against the neo-Gothic facade of Queen's, is delicious and absolute power is absolutely delicious. But now I have seen that even deans of medicine can be checked by a vulgar and fleeing alliance of metallurgists and civil engineers and the scales have fallen from my eyes.

I have learnt how non-existent is the margin of manoeuvre left even to the university itself when 105 per cent of its income is committed in advance and the academic future of this country is in the hands of the 14-year-olds who elect on the stage of a teacher's nose, to do history rather than physics.

I have glimpsed my grail and see that it is all around us, in the pressure of statistics, the movement of population, the failure of the economy and the politically inspired triumph of the polytechnic.

To be involved in administration, with the Robbins euphoria a faded and incredible dream, is not to influence events. It is merely to watch at closer quarters than most what a Hegelian would call the inevitable progress of the world spirit.

For coupled with my adolescent vision of a world in which conspirators not only secured but exercised power went the equally childish notion of one day being able to say, a later day and academic Wellington: "It was a damned close-run thing. I do not think it would have done if I had not been there".

Indeed, three years ago, I once did win a decision. I obtained the right for departments, if they so wished, to list their secretaries by length of service rather than in alphabetical order. A glorious but eminently solitary victory. I can recall no other occasion in which I was more than a passive witness to events which, as the French would put it, were inscribed in the course of things.

Frequent reminders of individual importance are, of course, very good for academics, especially on the arts side. The unchecked handling, in lecture rooms or learned reviews, of the intricate concepts in which most syllabuses can be reduced is a dangerous occupation for those whose mastery of words can easily trick into the belief that people and things can be manoeuvred with comparable facility. A spell on a committee soon cures all that. And it can also, on occasions, work what might be thought a miracle: making academics slightly nicer people.

For dons are not a little like schoolmasters, boys among men and men among boys. They habitually dominate both their subject and their students with such ease that the sudden changing of their plans by other adults can come as a really

nasty shock. This is the psychological origin of the titanic disputes over cockleshell issues which lead men to go 15 years without speaking to a colleague or retire in a permanent snail over an imagined insult.

Whereas barristers, businessmen and civil servants have the edges knocked off them by the daily realization that "you can't win 'em all", the don who does not involve himself in administration is like an only child suddenly exposed to the give and take of the playground. The veterans of a dozen committees at least learn like an English athlete, to lose with good grace.

He can also try to console himself for what he might feel is a waste of the time more appropriately spent in laboratory or library by pondering the phrase I culled from one of our really successful administrators: taking part in the collective.

Most dons, again on the arts side, are like little Coriolanus. "Alone I did it, I" they love to mutter to their donnish selves, and for their public they generally do have only themselves to congratulate or blame.

To involve oneself in administration, on the other hand, means exchanging the individual achievements of scholarship for the anonymous decisions of a committee. This, it is true, can have its advantages. No one individual can be held responsible for the appointment of a cantankerous alcoholic nonentity. But it can also mean endless hours spent witnessing discussions which would be exactly the same if one from one of them or all. It sometimes makes you feel that your time could be better spent.

I naturally know the Miltonic argument: they also serve who only sit and watch. For who knows what the microfilmologists might have carried out, what dastardly plots the geographers might have brought to nefarious fruition, what nepotism the dentists might have practised had the eagle eye of the arts observer not been fixed unwinkingly upon them.

But for all my awareness of the arguments, my own administrative involvement is at an end. It is a good thing that a university should contain no centre of power, and an even better thing that this should be known. But others must find this out for themselves, and curb their revolutionary zeal by their own diligence.

It is a good thing to see the pressures under which the administration works. It curbs the too critical tongue and puts understanding at the end of the telephone. But other people must discover this for they will certainly not believe me.

I am of course being selfish. I am rejecting the team spirit, and refusing the system that makes British universities so much better than their continental or transatlantic counterparts. If everyone be haved as I now intend, we should rapidly sink to the level of the French: governed, for all the post '68 trappings of democracy, by the handlings of the Rue de Grenelle.

But I too have yearnings to be one of those academic prima donnas who enjoy undisputed eminence in their own discipline by treating the university which pays their salary as an undemanding patron.

More realistically, I feel that a few more afternoons in the garden or on the golf course may keep me out of the obituary columns for a little longer and will certainly make me thinner. Some of the more exclusive committees actually had chocolate biscuits at the end of the day.

And I have, in any case, one unquestionable consolation and justification. Like the poor, the real university committee men are always with us. There are plenty of them to take my place. Like one of Ko-Ko's projected victims, I am as good as dead, but my name will be missed.

And now, like Brutus, I pause for a reply.

Philip Thody

The author is professor of French literature at Leeds University.



Student demonstration at Lancaster University earlier this year.

Lancaster affair warning that authority should not rush to battlements of own making

The 1975 Lancaster affair deserves to be recorded if only to show that some university authorities learn little from their own experience and nothing from that of others. Moreover, at a time when the blame for university upheavals is almost universally attached to "left-wing" students and "some" academic staff, it is instructive to look at a situation which developed almost entirely because of the extraordinary way in which those authorities attempted to deal with a common-place dispute.

The dispute arose because of an initial decision that a student on rent strike should not have access to a loans fund. Failure to rescind this decision led to an occupation of the university authorities claimed that the loans issue was used as a pretext. Students claimed that it was merely the last in a series of events which had created an atmosphere of antagonism.

If some students were looking for a showdown, the university authorities acted and spoke as if they were not over-anxious to defuse the issue. On the eleventh day of the occupation, bailiffs, with the assistance of the police, evicted the occupiers without incident. Domestic proceedings were then instituted by the university against some 30 students.

The University of Lancaster has an elaborate disciplinary code, with a University Tribunal in permanent session, as it should be. That way the members of the Tribunal can avoid implication in any dispute. The Tribunal consists of a chairman, two members of the academic staff, and two students elected by students.

The rules of the university, any that when the senate decides that an act of "grave disruption" has taken place, as they did in this case, an investigator shall summon any alleged participant before the Tribunal.

On March 10, 1975, three days after the students began their sit-in, the senate passed a resolution excluding them all and without naming names, from the university premises until further order. And a review committee to consider whether the exclusion in individual cases should be permanent or temporary or cancelled. In a remarkable phrase the senate resolved that any excluded person who did not apply to the review committee would be "deemed to be permanently excluded". In the event, this review committee never met.

The vice-chancellor several times assured students that all trials would be fairly conducted, according to the rules of natural justice, by the university. He should be praised for this, but without waiting, he revealed all this and "proposed to senate" agreed, that the charges should be referred to a special disciplinary committee which was forthwith instituted. And so, confounding those who believed that the university was a review committee to consider whether the exclusion in individual cases should be permanent or temporary or cancelled. In a remarkable phrase the senate resolved that any excluded person who did not apply to the review committee would be "deemed to be permanently excluded". In the event, this review committee never met.

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Mr Wright believes that North Riding will still have a major role to play in teacher training which will be enhanced by the new up-to-date elements in its curriculum. It is also clear that it, along with other colleges in the region, has been able to pass "many other" larger colleges in introducing new concepts into teacher education.

In a characteristic optimistic note Mr Wright adds: "I am well placed to say that we will be well placed in the 1980s to expand to over 500 places. One of the proposals is for a mobile team to visit teachers in production suddenly close."

The Science Research Council working party report on postgraduate training

'Increase value of awards for study in areas of economic importance'

Reliable figures for new entrants to postgraduate training in the United Kingdom over recent years are not available at the present time but there are some indications that the number of British postgraduates in science and engineering is now declining. The engineering level seems to have been maintained by a substantially increased proportion of overseas students.

Statistical data are not yet available to prove or disprove this as a national scale but information provided by a number of individual universities shows the average proportion of overseas postgraduates in science and engineering in these universities in the 1974-75 session to be 41 per cent compared with 24 per cent in 1971-72. The working party wishes to draw attention to this situation and to express its concern that the present arrangements are not attracting as many British students to postgraduate study as previously.

International comparisons of postgraduate training obviously depend on somewhat arbitrary decisions as to what constitutes a postgraduate degree course in each country, but accepting that most countries have a degree which is very roughly equivalent, at least in status if not in content and duration, to the British PhD and that some also have intermediate degrees in the same way as we have masters degrees—although these are more various in every regard—it is possible to draw up the following table:

Number of degrees awarded as a percentage of a single year-age group	Canada 70/71	France 70/71	Germany 69/70	Japan 70/71	Norway 70/71	UK 70/71	US 70/71
Degree type							
Year							
All Masters	2.6	2.5	—	0.52	—	2.3	7.1
Type Sc & Tech	0.78	1.30	—	—	—	0.76	1.52
All PhD type	0.52	0.43	1.14	0.32	1.00	0.74	1.11
Sc & Tech PhD type	0.34	0.30	0.35	0.09	0.56	0.51	0.56

The British system is undoubtedly very fast—and presumably therefore cheap—in comparison with other countries, the majority of students completing their PhD work at 24 or 25 years of age. In Japan most students finish their doctorate at 27 years of age. In the United States although the minimum duration of the PhD course is not very different, at three or four years, very frequently graduates are aged 30 or so when they receive their degrees.

The university system in Germany is less formal than that of other countries and the duration of studies for both first and higher degrees can differ frequently by two or three years within disciplines and between disciplines or that it is unusual to be engaged in doctoral study up to the age of 29 years or so.

The French system is a mixture of traditional and new degrees. The existence of a higher doctorate, the *Doctorat d'Etat* in addition to the *Doctorat de Spécialité* or *Doctorat de Troisième Cycle*, which is the closest equivalent to the British PhD, probably accounts for the significant proportion of students aged about 29 years when they receive their degrees.

The financing of postgraduate education is claimed by virtually all of those involved in teaching postgraduate engineering that no major progress will be made in engineering research in this country until the postgraduate courses and that this will not happen until we begin to pay our students a salary which is not merely a small fraction of what they can obtain in industry soon after graduation.

Views of the working party
The Robbing report on higher education of 1963 recommended an increase in the amount of systematic

Employment categories in science and engineering

Subject	Degree	Year	Central Government	Schools	Colleges	Universities	Industry	Commerce	Other	Total
Science	PhD	1974/75	128	11	85	7	297	22	1	541
		1973/74	128	11	85	7	297	22	1	541
		1972/73	128	11	85	7	297	22	1	541
	Other Science Degrees	1974/75	52							52
	First Degree	1974/75	105							105
Engineering	PhD	1974/75	85							85
		1973/74	85							85
		1972/73	85							85
	Other Science Degrees	1974/75	79							79
	First Degree	1974/75	113							113



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Policy lost in peroration

We do not know where Lord Crowthier-Hunt spent his summer holidays, but the universities will be glad to know that he has returned from them in good will. His speech at Nottingham last weekend answered the resumé of those who thought that the universities are, as David Frost used to put it, "doing a grand job", which the Minister injected into several highly critical speeches last term.

Gone was the stirring call for manpower planning, the suggestion that universities might need to alter their teaching methods radically to deal with new types of student, and the gentle accusation that universities might not be paying enough attention to the needs of society. Now, it seems, the universities are doing almost all that could be expected of them. They have broadened their courses, established closer links with industry, and have taken advantage of educational technology. They have won Nobel prizes, they turn out graduates quickly and cheaply, and they have catered for 72,500 students more than their grants provided for in the last five years. Yet they have maintained a fine record of research, and a practical invention. And nobody can teach the universities anything about cooperation: they have cooperated with everyone—with each other, with industry, with polytechnics, with other universities, like other universities, in making a contribution to our national life which is both relevant to our needs and distinguished in content. (One is reminded of Mr Harold Wilson, during the 1964 election campaign, beginning a speech with the words, "And why do I mention the importance of the Navy?" he asked rhetorically. "Because you're in Chatham," interjected a heckler.) All that was coupled with firm promises that the Government does not intend to interfere with university autonomy.

The chief criticism to be made of Lord Crowthier-Hunt's latest speech is not that he has apparently yielded to the university lobby or that the tone of his remarks this time is too

nothing whereas last term it was over-harsh. The point is that a coherent policy for higher education for which governments have been groping ever since Mr Anthony Crosland got muddled over what the binary system was for—is as far, if not further away than ever.

Lord Crowthier-Hunt is probably right when he argues that the dichotomy between equality and excellence is false. But it still has to be decided in which areas of higher education excellence is most desirable. "Academic excellence" has become a mystique—and, though it must be defended, it is not always clear, as Mr Eric Robinson pointed out (*THE TIMES*, September 26), precisely what is being defended.

Not equally are not excellent teachers, excellent technicians, excellent social workers, excellent plumbers, excellent civil servants, even excellent ministers all also needed? And with the economic world making choices between these different areas of excellence? It is arguable that one of the chief reasons for Britain's postwar economic decline is our under-investment in and lack of thought about the education of technicians, investment in the secondary modern schools in the late 1950s.

Whatever was meant by manpower planning, at least it implied a focus up to these issues. Lord Crowthier-Hunt might not take fright when the universities protest. In the end, their survival in form depends on our economic future. And that in turn depends on the quality of our manpower needs rather than the next 20.

Here indeed there is no dichotomy between equality and excellence. Britain needs well educated and skilled manpower at all levels. It needs excellence throughout its workforce. But that excellence is not in all, or even most, cases described as academic excellence.

Funding research

According to at least two of the five recent reports on postgraduate education, the best way to attract good students into research areas is to offer them more money than other postgraduates.

The SRC argues in its own report that there is insufficient diversity in the kinds of postgraduate training offered. For many there are no incentives to pursue advanced studies. The SRC also argues that the SRC should be able to offer more money to students who are doing research in priority areas.

Student accommodation

From A. J. Tucker.
Sir—Four years ago a housing association was formed by students, staff and governors of Oxford Polytechnic to provide accommodation for students, including married students and their dependents.

of world-redeeming proportions might not emerge from plant breeding. Indeed, from the scholarly study of ancient manuscripts.

The second argument against differential grants is that they tackle the problem from the wrong end. Candidates are slow to come forward for postgraduate courses in technology. It is clear that the rewards to be gained from taking those courses or from entering the kinds of career to which they lead do not seem to be sufficient. After all, medical students face equal financial deprivation, and for a longer time. Yet there is no shortage of would-be doctors.

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LETTERS TO THE EDITOR

The elite defined

from Dr L. Solymar

Sir—In case Mr Eric Robinson is really as ignorant as he pretends in his article (*THE TIMES*, September 26) may I try to explain to him what the word elite means.

Take a set of criteria by which one can judge whether A is better than B. Then rank all the people within the population of interest, and call the top, say, 5 per cent the elite.

Of course, the set of criteria must be fairly well defined but otherwise could be quite arbitrary. Having the right parents, or skill at surviving in the jungle or ability at shunting one's mouth at the right moment, may be rightly regarded as much more important criteria than being able to read Plato in Greek or being proficient at solving integral equations.

The unfortunate fact (from Mr Robinson's point of view) is that according to the set of criteria preferred in this country, Oxford University is regarded as an elite place whereas colleges of further education are not. I believe that an analysis of objective data—Mr Robinson craves for objectivity—would not contradict this state of affairs.

Take as your measure the A-level results of new entrants or the number of books written by the staff, or count the members of the Royal Society. Or take an external measure, say the number of visiting professors offered to members of the university staff by foreign universities.

I may, of course, quote all the wrong things. In that case would Mr Robinson be kind enough to suggest a set of criteria by which Oxford University or for that matter any other university should be judged?

I would myself go even further. It is not only the cream that is important; the cream of the cream matters even more. Had Germany defeated the last war possessed a sufficiently eminent set of physicists capable of producing the atomic bomb in, say, 1943, then Mr Robinson would not be philosophizing now about the demerits of having an elite in higher education.

Yours faithfully,
L. SOLYMAR,
Reader in engineering science,
Branche College, Oxford.

DIPHE frustration

from Dr J. B. Salmon

Sir—The headline in the report by Sue Reid (*THE TIMES*, September 19) where it goes to the point of taking the misleading to prospective DIPHE students, unnecessarily worrying to present ones and unfair to college and polytechnic staff who have taken much time and effort to ensure that students have a chance to proceed to the degree.

The DIPHE group of this council has, in accord with the "Guidelines for Diplomas of Higher Education", insisted that the outlets to degree courses are specified in the proposal for DIPHE courses that are submitted to it.

Where the outlet is to a higher institution, evidence of the willingness to consider students for entry to the third year of a degree course is required. It is recognized that with unit-based or modular DIPHE schemes, not all combinations of units or modules that might be related may necessarily lead to a DIPHE which is immediately acceptable for entry to the third year of a degree course.

In such cases the group have requested evidence of an adequate receiving system so that students are made fully aware of the consequences of their choice. Hence the frustrations mentioned in the statement attributed to Mr Mobbs should not arise in courses validated by this council.

The DIPHE group has also been asked to consider the possibility of a diploma which would be acceptable for entry to the third year of a degree course in order to obtain the necessary assurance. College staff are likely therefore to resent the implications of your headline. Presumably universities

from Dr Martin Albrow
Sir—Mr Eric Robinson's latest outburst against the universities is deeply depressing not so much for its specific charges but for the way in which serious matters are treated as occasions for crude abuse.

Reading Habakkuk's, Trow's and Marshall's recent interpretations of the role of universities in contemporary society reveals no slurs on polytechnics or any other educational institution and certainly no counterpart to the animus of Mr Robinson's account.

His assumption that discussion of academic excellence is automatically a plea for social inequality will probably be resented by the majority of university teachers, myself included. He suggests we turn to sociological evidence. If we do just that we can make out a convincing argument that universities since 1945 have been more influential in promoting social equality than in preserving inequality.

But it is unlikely that argument at this level is going to weigh very much with Mr Robinson who prefers to equate the pursuit of intellectual excellence with support for fun Smith, the outlook of the Black Panthers and attitudes stemming from the same roots as racism.

He accuses university teachers of too little contact with a world "beyond the pale". He obviously also knows very little of the dedicated university teachers and students who pursue both intellectual excellence and social equality and who will never remotely approach the remuneration and influence he enjoys.

Instead of argument we are treated to the pathos of Mr Robinson's autobiography, his Sunday school and his former "nigger" status as a technical college lecturer. This last point reveals one of the nastier forms of exploitation: the attempt to steal some of the all too scarce store of sympathy for black people by a member of a group which has shown itself perfectly able to look after itself.

I am sorry Mr Robinson has had such a difficult time in life but still hope that he will refrain from projecting his problems upon others in general and universities in particular.

Yours faithfully,
MARTIN ALBROW,
Reader in sociology, and head of department, University College, Cardiff.

Requirements for validation of DIPHE courses

This council has not yet cohered any diplomas of higher education and I am not aware that any universities have yet done so. Therefore it is not clear who are the frustrated students referred to in the statement attributed to Mr Mobbs.

This council has a mechanism for considering proposals for admission of DIPHE holders to the third year of appropriate degree courses and also for the consideration of cases of final year DIPHE students who wish to transfer at the end of their courses. So far it has not been requested to look at a single such application.

There is in this council and I am sure, elsewhere a genuine concern to ensure that those who, having completed a DIPHE, discover that they have a potential for, and an interest in, further study shall have the opportunity to undertake it.

Yours sincerely,
J. B. SALMON,
Registrar,
Council for National Academic Awards.

Mature maths

from Ron Adams and Glyn James
Sir—Congratulations on devoting your principal page to a discussion of difficulties in regular class meetings. (*THE TIMES*, September 26) to the heads of part-time mature students. More than two years ago representatives of polytechnic mathematics departments took action to establish a preliminary group of people, representing a mixture of qualifications, recent experience and (notably) confidence in their ability to undertake part-time courses in mathematics at the polytechnic, the Open University, and by the National Council for Research Grants from the National

Role of Sanskrit

from Dr F. R. Allchin

Sir—Dr Richard Gombrich makes an eloquent case for the role of Sanskrit in our universities (*THE TIMES*, September 19). Few would wish to challenge his contention that British Sanskrit experts are so thin on the ground that they can scarcely be seen as a threat to the economy, and in the near future one cannot see this situation improving. There is, I believe, another aspect of his diagnosis which demands consideration.

The great Sir William Jones wisely observed, in the context of Sanskrit, that languages were properly instruments of learning, and that they were "improperly confounded with learning itself". In this country Sanskrit has all too often been regarded, as Dr Gombrich suggests, as the hand-maiden of the study of Indian civilisation, and as an end in itself, or narrowly as an adjunct of Indo-European philology.

Sanskrit has become divorced from the study of Indian civilisation. This has seriously weakened the case for Sanskrit and has undervalued the development of just those branches of learning which it is needed to serve.

During the past decade there has been a remarkable upsurge of interest among young people in Indian religion, philosophy, and this has led to the setting up of nearly a dozen new teaching posts in universities throughout the country. Yet this development has taken place almost wholly outside the faculties of oriental studies, and has even been actively opposed by some leading exponents of Sanskrit.

One of the most rapidly advancing branches of ancient Indian studies is archaeology, and where teaching is available this attracts a steady flow of undergraduates eager to learn about the early history and prehistory of Indian civilisation. Yet teachers professionally qualified to meet this demand are far rarer than those in Sanskrit.

Art and archaeology, history, religion and philosophy are branches of Indian civilisation that deserve a permanent, if always modest, place in our universities. These are the subjects which create that wider interest, and which are integral part of the development of the student.

Yours sincerely,
F. R. ALLCHIN,
Reader in Indian studies,
University of Cambridge.

hulme Trust and much midnight oil yielded a complete package of 16 theorems, corollaries, group discussion sheets, private worksheets and audiovisual material.

A one-year course, given the simple title *Polymaths*, was launched as the first joint national venture by the polytechnics in September 1974.

It ran in nine cities and attracted 230 students. In all probability some 50 of these students will enrol on degree courses at polytechnics, the Open University and elsewhere.

This follows CNAAC recognition of Polymaths as an entry qualification to its honours and degree courses in mathematics, instead of A-levels.

The deliberately restricted scheme of 16 institutions during the academic year 1975/76 (total intake just over 400) while the material is meticulously revised. A national annual enrolment of over a thousand students is not unrealistic, and this for a subject with an unattractive public image.

Among the factors which we believe have made Polymaths a successful, notwithstanding a limited budget, are:

1. The abandonment of formal lectures and traditional examinations.
2. The sharing and early resolution of difficulties in regular class meetings.
3. The clear delineation of objectives to students.
4. The discipline of weekly objective testing to maintain progress.
5. The national negotiability of the final award.

Yours sincerely,
RON ADAMS, GLYN JAMES,
Faculty of applied science,
Lancaster Polytechnic.

Social action shows the path to true education

Sinclair Goodlad looks at the ways in which engineering students can involve themselves in community projects



Some of Zambia's underprivileged were helped by students from Imperial College, London, putting "advocacy engineering" into practice.

the person in every five in this country is engaged in full-time education either as a teacher or as a learner. Although education prepares people to contribute to the country's economy.

It is not, however, necessary for education to compete with other forms of social welfare for scarce resources: students can and should serve the community—contribute directly to social welfare—as a way of learning.

Future generations may well be astonished that we isolate students from their community in order to teach them about it. There is, of course, value in withdrawing from active concerns from time to time for contemplation; all the best prophets spend some time alone in the wilderness detaching themselves from social pressures the better to perceive deep truths.

But contemplation is of little value unless one has some experience to think about. Direct practical service to the community can offer such experience.

Many students already undertake community service, sometimes between school and college, for example through placement by Community Service Volunteers; more frequently through membership of a college community service or community action group.

Students undertake a multitude of valuable forms of service ranging from work with the elderly (cleaning, decorating, shopping) through work with the homeless, work on adventure playgrounds, work with youth clubs, work in hospitals and with drug addicts to work on welfare rights stalls and neighbourhood watch schemes. By and large, however, such service is unrelated to their courses of study, indeed may even distract from them.

It is absurd to say we are not achieving a humane society, especially in times of financial stringency, we must, surely, do the activities which permit and encourage students to study and to serve simultaneously.

In particular, there are vast areas of personal care which are staggeringly expensive if made the sole responsibility of paid welfare officials but which can be readily undertaken by volunteers—including students.

No existing jobs are threatened: what I am describing is personal care which cannot at present be offered because there is no spare money to pay for it. Students can and should help, since, in a manner of speaking, they are "paid" already.

Although the grants they receive are very low (and a justifiable cause for complaint), students' "each" represent some £30 a week of state investment. They are eager to serve their community; they already abundantly demonstrate, surely, it is economic sense to help them to do so.

Community service can, in fact, immensely enrich their education. Most people learn by doing. The results of their work, perceived as we are frequently reminded, is purposeful.

Community service, seen not as a "detached extra", but as an integral part of the curriculum, can lead to a wider sense of purpose and learning a wide range of new

desirable for economic electricity supply) socially undesirable.

The students' work was advocacy engineering in that they were trying to express the wishes of people whom the power companies might otherwise have not considered in planning electricity distribution networks. Two of the four students subsequently returned to work in Zambia.

Another group of students designed, constructed, and field-tested in Tunisia a robust tape-playing device for use in fundamental education schemes in tropical and semi-tropical developing countries. There was a need, it seemed, for a device which could operate under arduous conditions, replacing repeatedly recorded messages at exhibitions of agricultural techniques, family planning techniques, and so on.

In the event, the students found that a socially more complex and subtle approach would have been desirable, relying more on local manpower than on sophisticated hardware. They were able to specify the situation they found and to render some useful practical service while gathering first hand material for their report—which, for example, criticized "technological dumping" by an aid-giving government (not Britain) of sophisticated equipment designed neither for the climate nor for the use to which it was to be put.

Two of the five members of the group have entered the field of technological evaluation where they will be professionally concerned with ensuring that physical systems are truly responsive to the social needs they are designed to meet.

Other projects have tried to deal with unsatisfied needs right on our doorstep. For example, a project group was invited to study the meals-on-wheels service of the London Borough of Hackney.

There were numerous technical problems: how to keep food hot when a helper climbs four floors with no lift; how to design heated delivery-containers with optimum power supply, temperature control, insulation, weight, accessibility, etc; how to achieve optimal routing of vehicles taking account of parking restrictions, engine performance

characteristics, difficulty of access to dwellings, and so on.

There were also more complex questions. For example, if old people value the human contact with the meals-on-wheels helper as much if not more than the meals themselves, might it not be better to deliver the heat and the food separately (blast-frozen meals and microwave ovens) so that the rush would be taken out of the delivery system and the helpers could spend more time with the old people?

Or, more drastically, is it a good idea at all to have a centrally organized system? By meeting old people (a contact valuable in itself, whatever the information gleaned) and by working with the borough staff, the students learned things that an ordinary lecture could never have conveyed, and were able to do something useful at the same time.

More recently, a group has studied in collaboration with the London Borough of Camden the needs of people who are chronically unemployed. Drawing on their industrial experience, and having studied in detail the specific needs of the long-term unemployed, the group were able to specify the technical and administrative shape of a workplace which will help people back into open employment.

We are well aware of the limitations of these projects as a type of community service. But they are all practical pieces of work which, but for the student involvement, would not otherwise have been done.

But, it may be objected, it is all very well for engineering students to do this sort of work, what about students in the arts, mathematics, or in pure sciences? We are currently doing a feasibility study of an idea which may have far-reaching possibilities: that of setting up a "community service" itself as the first place in which service is possible.

In few schools do teacher-pupil ratios permit the sort of detailed individual attention to pupils which is desirable in subjects such as science and mathematics and which backward pupils require to meet similar needs for one-to-one instruction at the beginning of the nine-

teenth century, Andrew Bell and Joseph Lancaster devised the monitorial system of instruction which used senior pupils to tutor more junior ones.

The idea has been rediscovered in recent years. In developing countries it is known as Each One Teach One, and in the United States as Youth Tutoring Youth. Useful though not always the tutoring has been an extra-curricular activity for the tutors.

Research, however, indicates that such schemes not only make learning more pleasurable for those being taught, but also significantly increase the learning of the tutors. Might not tutoring therefore become part of the curriculum of the tutors, rather than a spare-time activity?

In particular, would it not be possible for university students to help as tutors in secondary schools as part of their degree studies? Students in any discipline (and destined for any occupation, not just teaching) would likely benefit from offering this sort of community service.

In most activities, for community service to be combined with study, some form of sandwich arrangement is a realistic necessity, with periods of practical activity alternating with periods of theoretical study.

The great attraction of tutoring as a form of service is that concurrent study is easily achieved, and already overlap considerably, with minimal inconvenience, could be made to do so more thoroughly.

There are, of course, many practical philosophical, political, and academic questions to be resolved (as well as a host of practical ones) in any scheme designed to combine study and service. That, indeed, is why they offer an incredibly fertile forum for educational transactions.

For example, students are already working in hospitals, prisons, old people's homes, and other social institutions as a way of studying; their work being both study and service—it will be desirable for these institutions to help actively with the teaching.

They should receive for doing this some of the funds currently channelled into educating institutions and they would need to have staff specially trained to act as tutors. These and other issues are raised (though not resolved—for these are early days yet) in *Education and Social Action*.

Advocacy engineering through socio-technical project work, and Each One Teach One tutoring are only two of many possible types of education through social action. They may not transform society overnight; indeed, any responsible department is likely to proceed carefully in adapting its courses to ensure that any activity undertaken is both educationally enriching and practical.

But the effort must be made. Unless we attempt, through socially involved action, to achieve academic and social objectives concurrently, we are likely to be able to afford neither—and to be a poorer and less humane society.

The author is lecturer in associated studies at Imperial College, London.

'A dream palace for the communicators of tomorrow'

Philip Radcliffe on the wonders of Syracuse University's \$15m communications centre

For all its 100 years history, nothing has put Syracuse University on the academic map in quite the same way as its new communications centre, a \$15m complex with the kind of facilities that would represent a dream come true for many a professional broadcaster and journalist.

Launched last autumn, the centre, which is the largest television studio in Central New York State, is a professional broadcaster's dream.

The special self-contained unit for broadcast journalism is a model of a typical modern broadcast newsroom, with wire services, a gallery, a control room, a radio, television, editing facilities for tape and film—and a composite studio.

The modern broadcast newsroom, licensed by the Federal Communications Commission, is a self-contained unit for broadcast journalism, which is the third largest independent, privately owned university in the United States.

That film, building and the new one, together form the S. J. Newhouse School of Public Communications at Syracuse University. Out of a total enrolment of around 15,000

students, nearly 1,500 are in communications.

The programme offers majors in advertising, broadcast journalism, television-radio, newspaper journalism, film, magazine, graphic arts, public relations, publishing, photography and television-radio advertising.

It is staffed by 40 faculty members under the direction of Professor Henry Schulte, Dean of the school, whose own background is in journalism.

Syracuse has a relatively long tradition of teaching communications. The School of Journalism was formed and broadcasting was formally recognized as an academic

subject in 1934, and even two years before that the university had been producing a daily programme over WSYR radio.

The next 25 years saw a steady development in broadcasting and journalism studies, and in the wider role of the university in media affairs. Since 1953 it has run a notable summer workshop in educational television, and since 1959 it has conducted, by arrangement with the State Department, the International Broadcasting Seminar for foreign broadcasters.

The growth in student numbers has been rapid. In 1965 and 1975 for the television department, 100 undergraduates in 1965 compared with more than 500 today, an average class of 20 at postgraduate level now, compared with around 80 in 1965.

The seal has been set on the story, however, by the opening of the new \$15m building, purpose-built, specially designed and filled with 32m worth of equipment to meet the study of radio, television and film.

It is a square-set, flat-roofed, four-storey building with 72,000 square feet of floor space, and it is connected on three levels with the first building, which is now devoted to print media.

The first two floors of Newhouse II, as they call it, are given over to television. Studio A is arguably the best equipped television studio in the country and Studio B, a mere 3,000 square feet just more than half the size of A, takes some beating.

Adjacent to them are all the usual additions to a television centre, such as engineering maintenance shops, control rooms, videotape areas, scenery stores and paint shops.

It all adds up to a dream palace for the communicators of tomorrow. Whether they will ever have any comparable facilities in their work-life is another matter.

The author is head of the communications unit at Manchester University.

BOOKS

Soviet personality cult

BOOKS

A majority behaviour

The Deviant Imagination
by Geoffrey Pearson
Marellum, £7.95 and £2.95
ISBN 333 16862 3 and 18992 5

First there was religious morality telling us about evil. Then, "evil men" became "sick men" and clinicians replaced priests and moralists as judges. At this stage "crime" became "disease" and only technical knowledge was required—not moral insight, or compassion, or both—to diagnose the individual. The technicians took majority behaviour as "normal" and "abnormality" and "deviance" as a state of ill-health. The philosophical anxiety of psychiatrists and their acolytes was eventually challenged by sociologists and a small minority of deviant psychiatrists, such as Laing, Couper, Szasz and a few others. The new trend, "anti-psychiatry", seemed to be giving symmetry or a clean bill of health (according to taste) to all deviants, whether schizophrenic, pervert, delinquent, or deviant from the majority norm in some striking way. More than that, anti-psychiatry also appeared to elevate the status of the deviant to that of a creative social-change agent and the deviant imagination to an indispensable salt of an otherwise infertile earth.

Geoffrey Pearson's book is a critique of both psychiatry and anti-psychiatry. He takes on the role of a critic of what he calls "misfit sociology" but the trouble with this concept is that it is left somewhat fuzzy around the edges: it is not clear whether this is to be taken as the radical sociology of anti-psychiatrists or the anti-psychiatry of radical sociologists or both, or perhaps it is a sociology by misfit social scientists or perhaps just a sociology of people who regard themselves as misfits. Another difficulty of a similar nature arises from the book's title: unless imagination is deviant, can it be imagination?

Geoffrey Pearson seems to be divided whether to side with those whose slogan is "to cut the sickness crap" or whether to say that the politicized formulae of treating deviance are a little simple-minded, for some problems are terribly awkward. This, dividedness, far from being a demerit, is one of the more attractive virtues of this book. Today, intellectually honest and responsible social comment must oppose total ideologies, whether personal and psychiatric or political: arrogant certainties must be counterpointed by proclaiming that neither the personal nor the political diagnosis or treatment can be an almost monopoly. Pearson's principal weakness is that he does not face up to the necessity of making our dividedness, and his, an explicitly cultivated and deliberately adopted mode of social assignment. Body, status and structure—both social systems and individual psychologies—are responsible, and there are no obvious priorities when contemplating personal or political action. Of course one puts on one's undergarments before one's outer clothes but the people who are responsible for the maintenance of the social system are not more valuable than other arguments. It is only sensible to attend to overall political anomalies and expect from them a pay off in terms of a discipline in certain kinds of personal behaviour but it is naive and dangerous to expect from them a reduction in the total volume of personal anomalies.

Pearson's own ambiguity of loyalty to the personal-political values is nevertheless attractively honest when he fails to proclaim this ambiguity as mandatory for balanced social thought. Clearly, his own intellectual deviance from the dominating majority of contemporary radical sociologists and

anti-psychiatrists is much to be commended. His own position is far from being radically polarized even if he does lean towards a more politicized world view than that which his dividedness could justify. His judgment is mostly shrewd and often moderate and his perception of certain radical fallacies is accurate. He asks, for example, how can the "underdog sympathies" of the radicals reconcile their social determinism with their voluntaristic deviance theory which smuggles in a reverent tone for the deviant's uniquely individualistic dissent? If society is to be blamed for all deviance then the creativity of the deviant must also be credited to society: accordingly there are no "heroes of socialist labour" only an heroic socialist society. Many theorists of deviance try to have it both ways: socio-political determinism so as to involve the deviant of responsibility, and phenomenological and mystical subjectivism so as to credit him and ennoble him. In this way the deviant is not only a picture of health but also the architect of degradation and a veritable culture hero.

These days morality must be political, and in radical sociology politicized deviance is just and fair and so is the counter-stigmatization of politically stigmatized majorities. According to the radical and anti-psychiatric ethos, the concept of "the majority" is authoritarian for crypto-fascist conspiracy or at least for vested and establishment interests. While according to the same ethos stealing is a demonstration against the work-ethic and "gang-bang" rape presumably a political protest against the reactionary sexual politics of the capitalist state. It is in this ethical context that young sociologists such as Pearson have to work today and it is hardly surprising that Pearson's critique is often muted. He does make some faint asides about human suffering and loneliness being inaccessible to political solutions but these views are put almost timidly and apologetically.

The time for combining a radical critique of personal psychiatry with a radical critique of radical politics is now. Pearson certainly chose the central court of contemporary sociological polemics in reflecting on "Psychiatry, Social Work, and Social Change and in locating the main areas of the personal and the political". What he fails to proclaim loudly enough is that there are no victories, either political or personal, in this court and that the balance and the way is the thing. In fact he is by no means unsympathetic to the thesis of a "political" treason through psychiatric diagnoses. He is on the side of anti-psychiatry in condemning the practice of popping up bad social systems by doing their deviants with clinical medicine.

It is perhaps no accident that in documenting this practice radical sociology is coy about mentioning Soviet psychiatrists propping up the KGB and its system. Nor is there a great concern in radical writing for the possibility that even before doctors attend to individuals and that even in the most socialized welfare systems welfare is often delivered through personal services to persons. "I will argue," Pearson declares, "that the 'drugs' of social control and welfare are unambiguously political." If you know that neither the techniques nor the ethics of personal services can be absorbed or displaced by political action and that these are once complicated, or as he puts it, "a complex of personal and political", does not disappear in the context of radical politics. It is only sensible to attend to overall political anomalies and expect from them a pay off in terms of a discipline in certain kinds of personal behaviour but it is naive and dangerous to expect from them a reduction in the total volume of personal anomalies.

Pearson's own ambiguity of loyalty to the personal-political values is nevertheless attractively honest when he fails to proclaim this ambiguity as mandatory for balanced social thought. Clearly, his own intellectual deviance from the dominating majority of contemporary radical sociologists and

When the television raises the child

Children in Front of the Small Screen
by Grant Noble
Constable, £5.00 and £2.50
ISBN 0 09 460250 6 and 460770 2

The main thesis of Dr Noble's book is that television, through its power to expose the young child of the wider society, is a positive agent of socialization. Once, he argues, children were born into small, stable, village communities, where roles and relationships were clearly defined and each child was exposed to the entire range of rules which he or she would be called upon to fulfil in later life. It is through interaction with stable figures in his environment that Noble believes the child acquires the skills essential to effective social functioning, and this was made easy in these small communities by the child's contact with his extended kin. With the industrial revolution however the village community became less stable and more mobile and complex; socialization too became a more complex process. Whereas in the village all members of the community contributed to this process and the whole of society was visible to the developing child, now the burden of socialization rests upon the nuclear family and only a few of the social roles which the child will later be required to fill are clearly visible within this restricted context.

According to Noble watching television can compensate for lack of direct social experience in this way because the child is not a passive viewer but rather "interacts" with familiar TV personalities. He believes that this "para-social" experience derived from television can transfer to a real life context and help the child deal with otherwise unfamiliar situations. For example, by watching Dixon of Dock Green the child learns about

the role of the police and knows, therefore, how to behave with respect to the bobby on the beat.

Noble suggests that much previous research in the field is contrived and concentrates too much upon the harm television does to children rather than upon the positive functions which it may serve. Perhaps there is a case to be made here; but if so it must rest upon reasoned argument backed by objective evaluation of the available evidence. Unfortunately, the book rarely satisfies these criteria: too often in his criticism of earlier research Noble replaces objective appraisal by rhetoric and innuendo. For example, Professor Leon Berkowitz, who has contributed much to the significant to the literature on the social psychology of aggression, is described by Noble as an "immensely self-confident" researcher whose work is to be discounted because "he selects merely his own students, and rewards them, one suspects, if they do what he expects, and because they are his students they know what he expects". Another researcher, whom Noble refers to by name but of whose work no account is offered, is cited for the manner of a social scientist who counts "the number of left-handed raps by non-Anglo-Saxon protesters in a given amount of time".

The writer who adopts such a cavalier stance should ensure that his own is above-reproach. In support of his case Noble refers to a host of studies (many hitherto unpublished), to argue among other things that exposure to televised aggression has different outcomes for aggressive and unaggressive children. He also identifies with television heroes more than girls, but that girls recognize television characters as being like people they know more than boys; that conformist children prefer

television programmes which feature them while boys who are usually of their own identity prefer series; that children draw more realistic representations of themselves after seeing themselves on television than before. Naturally, however, important areas of methodology and analysis are frequently omitted and the book is confronted by conclusions which are unconvincing. Samples, however, almost invariably small and drawn on the basis of small percentage differences between proportions of children from different groups who give a particular response.

Some of the reasoning behind Noble's conclusions gives the sections concern. For example, he states that Western films promote violence in stylized form and exposure to them serves a cathartic function; but he also states that Westerns present young people with a visual sense of what is involved in the survival of the fittest in a primitive world. The survival of the fittest is the charter which governs social action; it is the charter which must encounter when he is in school, and is the charter he must accept to succeed at school. If applications of evolutionary principles are common in many writers, but they are not normally encountered in essays by respectable social scientists.

Dr Noble's book addresses to many serious issues; sadly, his book which is difficult to read seriously.

Harry McEl

The family—the original closed system?

Social Theory and the Family
by D. H. J. Morgan
Routledge & Kegan Paul, £6.00 and £2.95
ISBN 0 7100 8179 0 and 8180 4

D. H. J. Morgan is concerned about the "untruth" of much of what is taught under the rubric of "family sociology" today. Discerning an uncomfortable gap between the theory and the practice in the study of the family, he has had a vision of the yawning chasm that may be the experience of those who lead a less conventional family life than himself. Hence this book: a diagnostic inquiry into the current malaise of family sociology, a cautious look at some possible medicines, and, finally, a prescription cautiously executed in shaky and almost indecipherable writing.

In the first part of the book Morgan undertakes a somewhat plodding recitation through the familiar suspect territories of functionalism, role theory, the "importance of kinship has declined", "literature and so on". This exercise is designed to expose the faulty premises and connections with which the sociology of the family is beset, leading the way to the second part of the book in which he contemplates a number of potential therapies suggested by "critical" writings on the family.

Of the two sections, the second is more interesting and readable. Almost nothing that Morgan has to say about the family is new, and most of it has been said more fully by other people. He is correct but unoriginal in his claim that the sociology of the family is more conservative and possibly more alienated from the politics of experience than other branches of sociology: it is hardly a new discovery that a critical counter-

tradition exists beyond the sociological boundaries in the literature of "radical" feminism, "radical" Marxism, and the writings of those chiefly British and American who have explored the psychological interiors in which exploited people dwell under capitalism. (One of the problems of the book is that, if we are left for good reasons without a definition of the family, we are left for less good reasons without a guide as to what all-important labels such as "radical" might mean.) Where one is given hope that some original thinking has occurred—for example, in the chapter on women as a social class—one finds instead ritual gestures: in that chapter there is, for instance, no systematic analysis of the methodological and theoretical difficulties entailed by the sex-class analogy.

Feminism worries Morgan. He feels that "the dangers in ignoring these [feminist] writings are greater than the dangers involved in treating them as a mere curiosity". We are told what these latter dangers are, but we are left in no doubt as to Morgan's overall mode of coping with them. He is polite and deferential, and his exposure of feminism is guarded and careful. In fact he is either too busy being polite to see the real significance of feminist criticism, or else the politeness is a cover for a more fundamental disregard of its importance. Indeed, he does hope at the end of a chapter on women that "a chapter on women that is as good as enough. It must be said that his choice of "feminist" writers is somewhat religious (de Beauvoir, Millett, Firestone, Friedan, Greer and Mitchell). When he turns to radical feminism he appears to mean "Marxist feminism". Some strange mode of thinking enables him to relegate feminist sociologists to footnotes (because they are not "radical")?

Reviews

Max Poller is author of "The Family Policy of Soviet Russia 1917-1961" and is principal of the University College at Buckingham. J. E. Enderby is professor of physics at the University of Leicester. Paul Holmes has written "Feminist Social Theory and the Family".

"The Open University" and is professor of sociology at the Open University. Steven Lukes most recent work is "Power: A Radical View". He is fellow and tutor in politics at Balliol College, Oxford. Harry McElroy has recently published "Growing and Changing" and lectures in developmental psy-

chology at the University of York. Ann Oakley is a research officer at Bedford College, London and has written "Housewife and Society". W. W. Robson is professor of English Literature at the University of Edinburgh.

BOOKS

Open-ended

Special Relativity
by J. G. Taylor
Clarendon Press: Oxford University Press, £1.95
ISBN 0 19 851824 2

Though this book is in the Oxford Physics Series, it is based on a course given by Professor Taylor to first-year undergraduate applied mathematicians, and it is farthest from the book from their standpoint. The first five chapters are at an elementary level and would be suitable also for first-year physics undergraduates. The first is on the speed of light and leads up to the principle of the constancy of the speed of light, which is used in chapter two to develop the formulae for time dilation using "light pulse clocks", and the formula for length contraction. Following the development of the Lorentz transformations in chapter three, a discussion is given of the intervals between events. The velocity transformations are developed in chapter four and applied to the velocity of light in a moving medium and to the Doppler effect. Relativistic dynamics is developed in the conventional way in chapter five.

In chapter six the four vector approach is developed and a very brief account given of relativistic electromagnetism. Chapter seven is on the Lorentz group. A final chapter entitled "Extensions of Special Relativity" includes discussions of tachyons and the principle of equivalence. The book gives a concise introduction to special relativity which is well suited to use in chapters six and seven, the suggestions for further reading and the problems, should form the basis of a very good open-ended course for first-year undergraduate applied mathematicians, and the book can be highly recommended for use in chapters six and seven would be beyond most first-year undergraduate physicists. Their needs are compressed into the first 60 pages.

Many physicists will like such a short introduction to special relativity, but others might prefer a fuller account, particularly of experiments and physical principles. For example, on page 14, in the discussion of light pulse clocks, Professor Taylor assumes the transformation $y' = \gamma(y - vt)$. This assumption is not obvious to experimental physicists, who will have difficulty following the brief development of γ given later.

W. G. V. Rosser

Variegated

Introduction to the Physics of Fluids and Solids
by J. S. Trell
Pergamon, £7.50
ISBN 0 08 018104 X

This is not a book, as its title might suggest, about the physics of condensed matter as ordinarily understood by British scientists. There is no mention of band theory; electron states, distribution functions, ensembles or the techniques of many-body theory. It is actually a "Properties of Matter" book with emphasis on solids and liquids and with roots deep in classical physics. The overall intention is to relate the equations of continuum mechanics to basic ideas such as Newton's laws of motion; once the equations have been set in context, they can be applied to a wide range of practical problems. Indeed the strength of the book is the interdisciplinary nature of the examples chosen, ranging from geophysics, oceanography, medical physics and astrophysics. The level of the book is somewhere between first and second-year honours and calls for a good standard of attainment in mathematics.

Few years ago, it was difficult to find a modern book which covered fluid mechanics, viscosity, elasticity and surface tension at a standard acceptable to honours students. Although this situation has changed recently many of these important topics still receive a rather cursory treatment in undergraduate courses and I suspect that in some departments certain of them are not taught at all. If, as seems likely, physics graduates will, in the future, become increasingly involved in work of an interdisciplinary nature, a revival of interest in classical physics is inevitable. Professor Trell has shown that such "old-hat" subjects as the streamline flow of liquids through narrow tubes can be made interesting and relevant. The example chosen here is the possible use of a urinary drop spectrometer as a method of giving early warning of abnormalities in the urinary tract.

There are some specific criticisms of a technical nature which one can make, but in general the book is well written and easy to follow, and the mathematical arguments are concise but without over-abbreviation. This book demonstrates that classical continuum physics provides a powerful tool for attacking a wide range of problems and is a subject of interest and absorbing subject in its own right. A particularly pleasing feature is the selection of excellent problems that follow each chapter.

J. E. Enderby

A grandiose reprint

Radioactivity and Atomic Theory
by Frederick Soddy
edited by Thaddeus J. Trean
Taylor and Francis, £12.00
ISBN 0 85066 077 7

The articles which Frederick Soddy, FRS, wrote for The Annual Reports of the Chemical Society during the years 1904-20, reviewing progress in radioactivity, are brought together here. This is, therefore, yet another example of the "non-book", 90 per cent of which is reprinted from other books or journals. In some cases this approach may be justified, for instance, the material has been collected from many different and sometimes obscure sources and then carefully brought together to make a coherent whole. But in this case, although the articles are reprinted in full, the reprinting is of great value in understanding the growth of our knowledge of radioactivity. It can hardly be over-stated that the original source is the Annual Reports of the Chemical Society, even when 60 years old, are part of the book stock of just about every university library. It is very difficult to see its justification. Even if it is intended as a souvenir for an undergraduate course in the history of science (as proposed on the dust jacket), surely it would be better to make the students find the original material themselves rather than spoon-feed them in this way.

Soddy's articles do provide a fascinating and remarkably clear guide to the infancy and adolescence of radiochemistry. From the first hesitant steps when a ray was thought to be distinguishable from γ and both from α and β and both towards maturity with the establishment of the decay series, to the appreciation of the subtlety of the concept of isotopes, so that by the time the last review had been published (1920), an adult branch of science had been described. Soddy had the ability to present, at each stage, the current position clearly, accurately and with a sense of perspective. The impression is created that, from the beginning, Soddy knew the general direction which the research would take and that he appreciated its fundamental importance. There are delightful glimpses of the past, wonderful in the foreboding, the interminable fractional crystallizations, the J rays (whatever happened to the J rays?)—the Nicholson structure of the atom, the long lost elements, cerium, corundum, keltium, nebulium (atomic weight 1.31 with a nice touch this), a possible uncertainty of one unit in the last figure? The book starts with 12 brief chapters of introduction. These are both a preface and a guide to the facsimile reports which comprise the bulk of the book. Although the basic material is high quality, the reprinting is such great interest it is difficult to be enthusiastic about a book which is really nothing more than a grandiose reprint.

D. S. Urch

Feudalism, Capitalism and Beyond

Edited by Eugene Kamenka and R. S. Neale
This volume focuses on the Marxist conception of capitalism as a social formation. Each of its distinguished contributors considers the truth or falsehood, usefulness or lack of usefulness of the Marxist account of change and social transition. This study will be of interest to all who seek to understand the process of social change.
Publication October Cloth £3.95
Paper £1.95

The Social Sciences Today

Edited by Paul Barker

Based on a series of articles which originally appeared in *New Society*, this is an introduction to the nature and function of the major social science disciplines designed for the intending and aspiring student and for the interested outsider. The authors describe the content and latest developments of their subject and discuss its problems and justification.
Publication October Cloth £3.95
Paper £1.50

Radical Social Work

Edited by Roy Bailey and Mike Brake

One of the few books available on social work, none offers the radical perspective provided by the contributors in this work. The authors explore ways in which social work may be cured rather than co-opted. They challenge the relevance and long-term effectiveness of received ideas in social work and social-work education, and have attempted to formulate codes and practices that may provide more realistic solutions to the problems of the 'socially unfit'.
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M. L. Bush

This clear evaluation of Protector Somerset and his age furnishes a new framework for the interpretation of politics in the reign of Edward VI. Somerset emerges as neither the transcendent visionary nor the grasping politician of earlier studies, but as a man of his own time, who accepted its values and worked to preserve the existing social fabric.
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